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THE UNIVERSITY OF ALBERTA

A UNIT COST ANALYSIS OF THE EDUCATIONAL EXPENDITURES
OF THE GRANDE PRAIRIE PUBLIC SCHOOL DISTRICT

NO. 2357: 1969-1970

by



MICHAEL ELIAS EURCHUK

A THESIS

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UNIVERSITY OF ALBERTA
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Unit Cost Analysis of the Educational Expenditures of the Grande Prairie Public School District No. 2357: 1969-1970," submitted by Michael Elias Eurchuk in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The main problem of this thesis was to conduct an analysis into the financial operations of the Grande Prairie Public School District for the 1969-1970 school term. Sources of data included: (1) Faculty Workload Surveys; (2) the Accounts Ledgers of Grande Prairie Public School District; (3) Fiscal budgets for 1969 and 1970; and, (4) personal interviews.

Initial treatment of data included projecting the costs to August 31, 1970, and prorating these costs to schools, programs, and where possible, subjects. Prorational and projectional methods were dependent upon expenditure classification. The final stages involved computer and manual treatment of the data to arrive at the cost per unit figures presented in this thesis.

The findings reported were: (1) the total operational costs of the Grande Prairie Public School District; (2) District costs per pupil; (3) cost per pupil per school; (4) cost per pupil per subject; (5) cost per pupil per subject cluster; (6) cost per pupil per subject cluster per Division; and, (7) cost per pupil by grade or program routes.

The costs subjected to analysis represented 84.1 percent of the District's total expenditures. This represented an average cost of \$619.17 per pupil registered in the Grande

Prairie Public School District. It was found that Division III per pupil costs were \$100.00 more than per pupil costs in either Divisions I or II and were \$300.00 less than costs per pupil in Division IV. The major reason for greater costs lay in the area of direct instruction. Extra services, higher indirect costs, and greater costs of Plant Operation and Maintenance in Divisions III and IV made up the majority of the remaining differences. It was found that both total and per pupil costs were highest in the Language Arts cluster, excluding some special programs such as Home Economics and Vocational Education. Per grade or program costs closely paralleled the findings in Division costs, namely that beyond Divisions I and II costs increased on a per pupil basis. In Division IV little difference was found between the costs of the program routes offered.

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M. E. E.

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Chapter I

SIGNIFICANCE, PROBLEMS, DELINEATION AND ASSUMPTIONS

I. Introduction

Increases in educational expenditures have resulted in an increased interest and surveillance by the public, as is witnessed in recent reporting by the mass communications media.¹ This interest indicates that all educational expenditures must be accurately summarized, analyzed, and the results meaningfully reported to the educational system as well as to the concerned public. The latter implies the utilization of sound and valid financial accounting principles and procedures.

Mort, Reusser and Polley (1960) state, "Accurate analysis of costs is essential to effective control of the educational enterprise and is an aid in explaining the work of the schools to those who are interested [p. 40]." Unit cost analysis or unit cost accounting is an approach which reflects sound financial management and can also insure the maintenance of proper public support.

Further, the importance of cost analysis is referred to by Hartley (1968) when he states "The first step of a program budget consists of a vigorous analysis of the organization

¹See for example Edmonton Journal, June 10, 1970, p. 1, cols. 6-10.

. . . [p. 96]" in part, a cost analysis. This analysis, in turn, culminates in the formulation of objectives expressed in operational terms. After a suitable program structure is developed the allocation of resources and assignment of budgetary dollars can be accomplished. A major result of this process is Planned Program Budget System (PPBS), a multi-year program document and financial plan for the organization.

II. Description of Unit Cost Analysis

Fowlkes and Hansen (1952) provide the following description of unit cost accounting or unit cost analysis:

Cost analysis is the process of studying the total costs of public education for a given community, state, or area for a given year; trends in total school cost; the costs of specific services or subjects, e.g. transportation or English; the cost of education by grades or levels, e.g. elementary school costs, secondary school costs; costs of nonattendance; costs and taxpaying ability; cost and size of school; reasons for increased costs and need for decrease in costs [p. 471].

This general description indicates the uses made of unit cost analysis. Initially, cost analysis attempts to measure the amount of expenditure for programs, performances, activities or outputs based on a standard measurable unit. These per unit costs are then analyzed in light of existing conditions and objectives and outputs of the school system. The results are then used as a basis for improvement of program and administrative procedures.

For the purpose of this study unit cost analysis refers to the detailed determination of educational expenditures for specific functions, activities, services or

performances, the conversion of these expenditures into unit costs on a pupil enrolment basis, and the examination and analysis of the resultant per pupil unit costs.

III. Significance of Cost Analyses Studies

The value of cost analyses can be great. First, because resources or funds for educational spending are limited, it is important that expenditures result in the greatest possible return. Van RenHaag (1956) offers some fundamental rules of education investment:

The fundamental rules for investment (including investment in education) are: as long as an additional investment yields net returns (returns exceeding its costs) it is desirable; when the net returns on one investment exceed net returns on alternative investments it is to be preferred, for this indicates that more highly valued services can be rendered by this allocation. When all additional investments yield the same return, optimum allocation has been achieved. [p. 11].

Fowlkes and Hansen (1952) feel that unit cost analysis can result in optimal returns for educational investment:

Maximum educational opportunity within limits of financial ability and a reasonable guarantee of operating efficiency that obtains, as nearly as possible, maximum value per dollar spent for public education might well be adopted as a working charter for all those responsible for business management of public education. Such a charter can be maintained, only if financial accounting systems for schools are such that cost analysis of the type suggested can be made [p. 472].

It becomes evident that unit cost analysis can assist in the placement of educational funds for optimal benefits. Cost analysis, therefore, is a tool to be utilized by school boards, teachers, school administrators, and the public.

This assistance comes in the development and

maintenance of an adequate educational program; this is especially timely in an educational environment of change. Choosing the best alternative in program changes is enhanced by the curriculum decision-maker being aware of all cost figures. Vaizey and Chesswas (1967) write:

There is no administrator in the world who has more resources than he can use; and when resources are limited, choices have to be made. It is essential that these choices are based on an accurate assessment of the cost situation [p. 11].

This position is supported by Knezevich (1967): "The fundamental purpose of unit cost analysis is to present and interpret cost data as an aid to administration of public education [p. 204]."

Education is a public service. The supporting public is demanding that it be informed in meaningful terms of the details of educational expenditures.² Gross figures are meaningless to lay personnel while figures reported for "direct instruction" or "instructional supplies" are more meaningful and easier to understand. As a truer cost understanding of the educational program is gained by the supporting public, boards of education, school administrators, education departments, and teachers, a basis for re-evaluation of the existing program may be obtained.

Of paramount importance is the assistance given in the preparation of school budgets; especially for those activities which can be reduced to measurable units. For example, rather than providing for an estimated percentage

²See for example Edmonton Journal, June 10, 1970, p. 18, Cols. 1-3.

increase over a previous year's budget, the budget committee can make very specific allocations of monies to particular units. Similarly, the same holds true for decreases in the budget. Ovsiew and Castetter (1960) reveal the importance of cost analyses in budget preparation when they state, "One estimate indicates that detailed and accurate cost accounts can reduce the time and labor needed in budget preparation by 90 percent [p. 287]."

IV. Statement of the Problem

The Main Problem

The main problem of this thesis was to conduct a unit cost analysis into the financial operations of a school authority in the Province of Alberta for one complete school year. The September 1969 through August 1970 school year was selected for this analysis.

The Sub-Problems

A number of sub-problems were to be investigated in this study. These sub-problems related to the functions of the units analyzed. This study determined the educational expenditures or costs in Grande Prairie Public School District per enrolled pupil in the District;

1. in each school;
2. in each grade;
3. in each grade division;
4. by subjects taught in each grade;
5. by subject clusters in each grade;

6. by subject clusters in each Division;
7. of various program routes. The specific program routes considered in Divisions I, II, and III were the grade levels, while the programs for consideration in High School were matriculation, business and vocational programs. The maximum and minimum costs of selected program routes were established.

V. Importance of the Study

A Planned Program Budget System (PPBS) is being developed for Alberta. To meet this end a series of research projects are being conducted under the auspices of the Government of Alberta, Department of Education. The Department of Educational Administration, University of Alberta, is responsible for the conduct of the total project. The initial concern is focussed on identifying and defining programs currently in existence in typical jurisdictions; identifying the financial, human and material resources allocated to the achievement of these programs; and, establishing the costs of programs in various types of school organization and determining the optimum condition for economical administration.

An Alberta Order in Council states "The study will be undertaken in selected typical jurisdictions . . ."

Utilizing six variables: total school population; equalized assessment per pupil; supplementary requisition per pupil; total expenditure per pupil; pupil-teacher ratio; and school

population density; a research project conducted by Eurchuk (1969), determined eleven jurisdictions representative of the jurisdictions in Alberta. Prior to development of the data processing procedures necessary for introducing PPBS at a provincial level, the representative units must be subjected to extensive unit cost analysis.

Grande Prairie was selected as being representative of small urban Public School Districts in Alberta. For this reason a unit cost analysis of this District is necessary for the provincial project. Moreover, should future plans of the District encompass the concept of PPBS, this study would represent the initial phase of program budgeting and afford a base of knowledge permitting greater depth in perceiving the problems, alternatives and possible solutions to aspects of program budgeting.

VII. Delimitations and Limitations of the Study

Delimitation

The study was delimited to the operational expenditures in:

- (a) the Grande Prairie Public School District; and
- (b) the school year 1969-1970.

Limitation

This study was limited by the following:

1. operating expenditures were defined in such a way as to exclude debt charges, interest, depreciation and capital outlay;

2. only regular day students were included; that is the study did not take into account the handicapped, community services or adult classes;
3. this study is idiosyncratic and therefore is appropriate for only the year and district in which the study was made.

VII. Assumptions

For the purposes of this study, the following assumptions were made:

1. The records from which the necessary cost data and related information were taken were duly complete and accurate.
2. The methods employed to project costs for the remainder of the school term were accurate.
3. The unit costs of the Account Classification are comparable among the schools included in the study.
4. The bases chosen for prorating expenditures are equitable, adequate and realistic.

VIII. Summary

Rising educational costs and increased public interest has resulted in demands for astute investment of resources and meaningful reporting of expenditures to both educational systems and concerned public. To these ends cost accounting and unit cost analysis are employable aids.

Unit cost analysis serves three functions: (1) it

determines educational expenditures for specific functions, activities, services or performances; (2) it converts these expenditures into more easily understandable units; and, (3) it allows for examination and analysis on the basis of per unit costs.

The main problem of this thesis was to conduct an analysis of the fiscal operations of the Grande Prairie Public School District for the 1969-1970 school term. To reach this goal the study modified an existing cost analysis model and applied the modified model to the expenditures of the school district investigated.

The sub-problems investigated during this study were determination of per enrolled pupil educational costs: (1) in Grande Prairie Public School District; (2) in each grade division in Grande Prairie Public School District; (3) in each subject taught; (4) in each subject cluster; and (5) in various program routes or areas offered by Grande Prairie Public School District.

IX. Succeeding Chapters

The purpose of Chapter 2 is to establish a uniform model of unit cost accounting or unit cost analysis, based on the performance analysis approach, that can be utilized by any school system. In Chapter 3 the specific procedures used in this study for processing data, prorating expenditures to grades, grade divisions and schools and determining per pupil costs are presented. The purpose of Chapter 4 is to present

the various per pupil unit costs as well as some comparisons of costs, while in Chapter 5 the findings are reviewed.

Chapter 2

THE RESEARCH DESIGN

I. Introduction

The most recent cost analysis completed in Alberta was that done by Myroon (1969). In this study he stated:

The first stage of this study was to design a model which would establish a uniform methodology upon which this and other cost analyses studies could be based. The design of such a model was of importance for two salient reasons. First, before any unit cost analysis can be undertaken, a plan or design must be drafted to establish the parameters of the study as well as to set specific procedures and methods. Secondly, the unit costs of one school or system are frequently compared with another. All too often there is no valid basis for making comparisons or drawing inferences because of lack of uniformity in each analysis. That is to say, cost analysis procedures must be uniform in all aspects before useful and meaningful interpretations, comparisons, and inferences can be made. (p. 15)

While this analysis was specific to the Grande Prairie Public School System it should be noted that future use entails its inclusion in a major project which will draw its information from ten cost analyses. The necessity of uniformity, therefore, is clearly evident.

Uniformity was required in proration procedures, data calculation, terminology, classification, appropriate units for cost expression, and a synchronized accounting system. The methodology employed for this study was basically similar to that employed by Myroon. Some changes were necessitated

by circumstances specific to the Grande Prairie System, other changes were due to extended processing of information. Thus, the general procedural design for this unit cost analysis as well as suggested uniform standards necessary for unit cost accounting in other Alberta schools are presented in this chapter.

II. Stages in Unit Cost Analysis

A design for meaningful unit cost analysis can encompass three distinct stages or phases. These phases are:

I. Preparation in Advance

- a. development of uniform terminology
- b. establishment of an adequate accounting system based upon a uniform classification of expenditures
- c. determination of the accounting bases: cash or accrual

II. Unit Costing (Procedural Methodology)

- a. determination of the period of time for which the expenditure figures are to be computed
- b. determination of the appropriate pupil unit to be used
- c. determination of the areas to be included in a per-unit expenditure figure (subjects, programs, and grade levels or divisions, and schools)
- d. determination of the proration basis, standard or statistic to be used in allocation of expenditures

to schools and areas

e. determination and projection of the actual costs

f. estimate chosen per pupil costs of specified area

III. Findings and Analysis

a. extrapolation of the major findings

b. analysis of findings and cost data to make comparisons, predict trends, and draw inferences

III. Model Definition

Development of Uniform Terminology

Recent works carried out by Hartley (1968) and Myroon (1969) have established a uniform terminology applicable to cost analysis. This study utilized their definitions as much as possible.

Cost and expenditures. Costs and expenditures are used interchangeably in this thesis to mean that amount of money or money's worth incurred, whether paid or unpaid, (accrual basis), for any item of property or service.

Cost analysis, unit cost analysis, and cost accounting. Cost accounting refers to (Reason and White, 1966):

That method of accounting which provides for the assembling and recording of all the elements of cost increased to accomplish a purpose, to carry on an activity or operation, or to complete a unit of work or a specific job [p. 220].

Unit cost analysis or unit cost accounting refers to the detailed determination of designated educational expenditures for specific functions, activities, services or performances, the conversion of these expenditures into unit costs on a

pupil enrolment basis, and the examination and analysis of the resultant per pupil unit costs.

Salary. The total amount regularly paid or stipulated to be paid to an employed individual, before deductions, for personal services rendered while on the payroll of the school district.

Expenses. Expenditures incurred by employees for non-salary items.

Prorating. The allocation of parts of a single expenditure to two or more different accounts in proportion to the benefits which the expenditure provided for the purpose or program area for which the accounts were established. (Reason and White, 1966, p. 229)

Accrued Expenditures. Expenses which have been incurred, but as of a given date, have not been paid.

A more comprehensive listing of unit-cost analysis terminology will be given in succeeding sections of Chapter 2.

Expenditure Classification

Cost accounting. This represents the accounting system that best complements unit-cost analysis. Every accrued expenditure is entered directly into a specific ledger category according to the function, purpose, activity or performance of the expense. The ledger sheet, therefore, is a record of actual expenditures accrued by a school, for any given activity, function, program, grade or subject area.

As some expenditures cannot readily be charged directly to a school or activity area an adequate cost

accounting system should make provisions for allocations to be made on some logical basis. These proration procedures shall be discussed more fully in a following section.

Expenditure categories. Cost accounting is based on a meaningful classification of expenditures. According to Myroon "A realistic and uniform classification of expenditures results in meaningful and significant data for unit cost comparisons [p. 21]."

Many different approaches for categorizing expenditure accounts are available. Mikesell (1965) described six major types of expenditure classifications used by government. Six major classifications used in school expenditure categorization were described by Linn (1956). Ambiguities in the terminologies employed were pointed out by Knezevich and Fowlkes (1960). Limitations of the most common method, that being performance classification, were described by Benson (1963), Burkhead (1964), and Hartley (1968). The most recent classification system proposed was utilized by Myroon (1969). With some revision it was employed during this study. The description of this classification system follows.

Performance-based unit cost analysis expenditure classification. Both Benson (1963) and Burke (1957) disclosed that performance classifications make use of all systems of expenditure classification (function, character, object and location). Therefore, the performance-based classification of educational expenditures as used in this study, illustrated in Figure 3, involved the amalgamation of these systems.

Preston Cutler (1967) supported this approach by suggesting that the program or performance approach is intended to bring correspondence between expenditure categories and the most direct objectives of education.

Atherton (1968) further justified this concept by stating, "A crude measure of output was considered as the completion of a student year in a given program [p. 91]." In light of these statements it can be stated that this unit-cost analysis study was performance-based for it classified expenditures by the functions and activities selected and the analysis of these expenditures in terms of student output through grade levels and subjects is a performance approach.

Figures 1, 2, 3 and 4 represent the various classifications of the study. Figure 1 shows the grade levels that fall into the Divisions repeatedly referred to in this study.

Division or Level	I - grades 1 - 3 inclusive
Division or Level	II - grades 4 - 6 inclusive
Division or Level	III - grades 7 - 9 inclusive
Division or Level	IV - grades 10 - 12 inclusive

Fig. 1. Grade Level Classification by Division.
(Note: In succeeding pages, Divisions I, II, III, and IV will refer to the grades mentioned above.)

Figure 2 represents the broadest classification of expenditures. The absence of certain areas is evident. Food Services and Student-Body Activities were excluded from this study because there was great diversity in the financing methods of these services in various areas. Community Services were excluded because these expenditures have no relationship to the education of regular school pupils. Capital Outlay and Debt Service were not included because they are not current operating expenditures, as previously defined. Health Services were excluded because they were assumed by the City of Grande Prairie. Attendance Services were excluded as this responsibility was assumed by the Administration of both the District and the individual schools and therefore do not result in a cost readily chargeable to the specific classification.

Series	100	ADMINISTRATION
	200	INSTRUCTION
	500	PUPIL TRANSPORTATION SERVICE
	600	PLANT OPERATION
	700	PLANT MAINTENANCE
	800	FIXED CHARGES
	1400	OUTGOING TRANSFER ACCOUNTS

Fig. 2, Classification of Expenditures (Adapted from Reason and White, Chapter 3).

Figure 3 shows the breakdown of the broad classification of Figure 2. It is this classification that was utilized for classifying all educational expenditures in this thesis.

Figure 4 indicates which categories constituted a unit cost analysis in this thesis and to what extent the unit cost analysis was conducted.

Determining the Bases of Accounting: Cash or Accrual

Expenditures under the accrual basis are recorded as incurred, when the services have been rendered or the goods received. Cash accounting means that expenditures and revenues are entered only when payment has been made or has been received. While most authorities recommend the use of an accrual system, many boards adopt the cash basis because it is simpler to operate.

Grande Prairie Public School Board utilizes a double entry ledger system which permits both cash and accrual systems being used. This study utilized a modified cash-accrual system of extracting cost data. Irrespective of when the expenditures were entered, the costs were extracted only for the period of time involved in the cost study. This was necessitated as the cost data had to reflect an accurate account of actual costs during the specified period of time. In some cases it was necessary to check the invoices that corresponded to the entered cost figures on the ledger sheets as the invoices, most often, stipulated the date the costs were incurred.

Series: 100 ADMINISTRATION

- a. Salaries
- b. Expenses

200 INSTRUCTION

- a. Direct Salaries
 - (1) instruction
- b. Indirect Salaries
 - (1) administration
 - (2) clerical
 - (3) guidance counsellor
 - (4) substitutes
 - (5) interns and bursaries
 - (6) librarian costs
 - (7) coordinators
- c. Indirect-Direct Expenses
 - (1) textbooks
 - (2) library
 - (3) instructional supplies and equipment
 - (4) other

500 PUPIL TRANSPORTATION SERVICES

600 PLANT OPERATION

- a. Salaries
- b. Utilities
- c. Supplies
- d. Central Office

700 PLANT MAINTENANCE

800 FIXED CHARGES

1400 OUTGOING TRANSFER ACCOUNTS

Fig. 3 Breakdown of Expenditure Classifications
(Adapted from Reason and White, Chapter 3).

Classifi- cation	Per Enrolled Pupil Unit Costs Based on Location Classifi- cation and Measured for a Complete School Year				
	Each School	Grade Divisions In System	Grade Divisions In Schools	All Subjects	Program Routes & Subjects
100					
a.	X	X	X		X
b.	X	X	X		X
200					
a.	X	X	X	X	X
b.					
1.	X	X	X		X
2.	X	X	X		X
3.	X	X	X		X
4.	X	X	X		X
5.	X	X	X		X
6.	X	X	X		X
7.	X	X	X	X	X
c.					
1.	X	X	X	X	X
2.	X	X	X		X
3.	X	X	X	X	X
4.	X	X	X		X
500	X	X	X		X
600					
a.	X	X	X		X
b.	X	X	X		X
c.	X	X	X		X
d.	X	X	X		X
700	X	X	X		X
800	X	X	X		X
1400	X	X	X		X

Fig. 4 Summary of Categories Unit Cost Analyzed

Note: X indicates a unit cost analysis is performed in that category.

Defining Expenditure Classification Items

100 Administration. Administration consists of those activities which had as their purpose the general regulation, direction, and control of the affairs of the school district. This was system-wide and not confined to one school, subject, or phase of school activity.

200 Instruction. Instruction included those accounts which dealt directly with, or aid in, the teaching of students or improving of the quality of instruction. Personnel such as the teacher, building principal and vice-principal, coordinators, guidance personnel, librarians, audio-visual personnel, department heads, substitute teachers, temporary teachers, part-time teachers, interns and pre-interns were all included in this classification.

200 (a) Direct salaries. Direct salaries included full-time salaries as well as prorated portions of salaries for all teaching services rendered to pupils in the school system.

200 (b) Indirect salaries. Indirect salaries included the full-time or prorated portions of personnel who were only indirectly concerned with instruction. Administrators, department heads, and librarians are examples of personnel that fell into this classification.

200 (c) Direct-indirect expenses. This classification included all expenses incurred for teaching activities or the improvement of instruction, either directly or indirectly. Textbook [classification notation 200 c. (1)] expenditures

were the gross cost to the school board. This was done to give a more complete picture of subject costs which was made possible because Grande Prairie charged each textbook order to specific courses. However, it should be noted that due to a textbook rental scheme the net result was no cost to the Board. The exclusion of this data, however, would have resulted in more biased subject costs. School library [classification notation 200 c. (2)] expenditures included regular or incidental expenses but excluded expenses for new or expanded facilities. Linn (1956) referred to the difficulty of separating supplies from equipment. This problem was made more difficult by the expenditure classification called Contributions from General Funds to Capital. Included in this classification were items which Linn would term supplies and others which would be classed as equipment. The numbers of invoices involved in this and related ledgers precluded classifying each expenditure item individually. As a result supplies and equipment were placed in the same classification. However, Grande Prairie District did break these costs down to individual courses. This allocation resulted in more accurate course costs than were found in recent cost analyses studies. It should be noted that any single supplies or equipment expenditure of greater than \$500 was classed as Capital Outlay. This amount, which corresponded with Myroon's limitations (1969), was deemed acceptable on the basis that any single expenditure of that amount is not usually of a recurrent nature. Other expenditures [200 c. (4)] were those

which cannot readily be allocated to another expense category.

500 Pupil transportation services. This category was concerned with the conveyance of pupils to and from school activities, either between home and school, on trips for curricular or co-curricular activities, or any special transportation costs.

600 Operation of plant. This category included expenses incurred for those housekeeping activities as are repeated somewhat on a daily, weekly, monthly or seasonal basis. The term "plant" referred to all buildings operated and maintained by and for the school system. Repairs and replacement of equipment and facilities were excluded. Central office (600 d.) refers to costs incurred in the physical operation of the central office building.

700 Plant maintenance. Included in plant maintenance expenses were those activities concerned with keeping the grounds, buildings, and equipment in their original condition of completeness or efficiency.

800 Fixed charges. Fixed charges were those expenditures of a generally recurring nature which were not readily allocable to other expenditure accounts. This included costs such as employee benefits and insurance, workman's compensation, liability insurance, and rent and tax on land and buildings.

1400 Outgoing transfer accounts. This category included any expenditures made to other school districts or administrative units.

IV. Unit Costing (Procedural Methodology)

Determining the Period of Time of Per Pupil Expenditures

This study used the computation of per pupil expenditures on an annual basis for all Divisions. In Division IV this necessitated treating each semestered course as if it were instructed for a full year for one-half the time signified on the Faculty Workload Survey.

Determination of an Appropriate Pupil Unit

According to Johns and Morphet (1952) Average Daily Enrolment or Average Daily Membership is the best per pupil unit for measurement. Unfortunately this study was unable to utilize this measurement as the data was collected prior to completion of the school term. Enrolment as of the specific date of the Faculty Workload Survey (January 7, 1970) had to be used. Anticipated enrolments for the second semester in Division IV proved accurate after actual registration took place.

Determination of Proration Basis for Each Expenditure Series

Equitable proration of costs remain as probably the greatest single problem area in cost analysis studies. To standardize methodology, Myroon's proration methods were generally employed. In some cases the methods employed differed from Myroon to suit both local situations and available information. Definitions and examples of the methods employed are as follows:

Time method. Prorating expenditures on the basis of

time allocates the cost of a given activity in proportion to the time spent in each given activity. For example, a teacher who teaches grade seven Science three periods a day, grade eight English three periods a day, and serves as a stand-by substitute for one period a day would have her salary allocated by the following proportions. 43 percent of this teacher's salary would be allocated to grade seven Science, 43 percent to grade eight English, and the remaining 14 percent to substitute services.

Time-membership method. This method of proration allocates a given expense to various activities based on the proportion of membership engaged in these activities and time spent by these pupils in these activities. Consider a teacher in a combined grade five and six classroom. If the amount of time devoted to each grade level is equal, then the proportion of the teacher's salary allocated to each grade will be equal. If, however, the amount of time varies because of the varying membership of the grade levels, then the teacher's salary will be allocated proportionately.

Number of registered rooms method. Prorating on the basis of number of rooms allocates a part of an expenditure to a specified grade level or school in proportion to the number of registered home rooms (or equivalent) of that grade or in the school. This is the most common method of allocating utilities, and caretaking salaries and supplies costs to grade divisions.

Number of pupils method. This proration method

allocates expenditures in proportion to the actual number of pupils. This is a general method and is often used when all other methods are inapplicable.

Actual expenditure method. Actual expenditures allocates costs to a given activity in proportion to the actual expenditures for a commodity chargeable to that activity.

As has previously been noted it is extremely important that the most appropriate proration method be chosen. John Evans (1955) referred to the principle as the criteria of "equity and adequacy [p. 43]." The proration basis should reflect the actual cost of the various activities in a realistic and accurate manner. Practicality is yet another important consideration. Therefore, all proration bases, standards or methods in this study were chosen with the assumption that they were equitable, adequate, realistic, accurate and practical. In several instances the best method of arriving at a true indication of cost was by a combination of the methods outlined.

Table 1 summarizes the proration methods chosen for the allocation of expenditures to various schools, grade levels and subjects.

Proration calculations. The general proration formula developed by Evans was employed as much as possible (pp. 43-45):

$$X = \frac{\dot{A}}{C} (B) \text{ where}$$

Table 1

Proration Methods Utilized in Allocating Expenditures
to Schools, Grade Levels and Subjects

Expenditure Series	Proration Method		
	School	Grade Level	Subject
100 ADMINISTRATION			
a. Salaries	AE&T	T&NP	
b. Expenses	NP	NP	
200 INSTRUCTION			
a. Direct Salaries			
(1) Instruc.	AE	AE	T
b. Indirect Salaries			
(1) Admin.	AE	T&NP	
(2) Clerical	AE	T&NP	
(3) Guid. Coun.	T	T&NP	
(4) Substitutes	AE	NP	
(5) Interns & Bur.	NP ^a	AE	
(6) Librarians	AE	NR	
(7) Coordinators	AE	-- ^b	NC ^c
c. Exp., Dir. & Indir.			
(1) Textbooks	AE	AE	AE
(2) Library	AE&NP	NR	
(3) Inst. Supplies & Equipment	AE&NP	AE&NP	AE
(4) Other	NP	NP	
500 PUPIL TRANSPORTATION SERVICES	AE	AE	
600 PLANT OPERATION			
a. Salaries	AE	NR	
b. Utilities	AE	NR	
c. Supplies	NR	NR	
d. Central Office	NR	NP	
700 PLANT MAINTENANCE	AE&NP	NP	
800 FIXED CHARGES	NP	NP	
1400 OUTGOING TRANSFER ACCOUNTS	NP	NP	

continued

Table 1 (continued)

Legend:

T: time
NR: number of registered rooms
NP: number of pupils
AE: actual expenditures

^aChargeable to grade or division throughout the system and therefore to the school on number of pupils in that grade or division.

^bNot chargeable to grade levels, unless by courses.

^cNumber of courses (modified version of T.)

- X - exact cost allocated to a school, grade level or subject for a specified activity or service.
- A - quantity of unit used only in the school, grade level or course.
- B - expense allocated to a school, grade level or subject for a given activity or service.
- C - total quantity of unit used in the school district, school, grade level or subject for a given activity or service.

Consider, for example, a Librarian who spends 50 percent of her time in Division IV. Her salary is \$10,000.00. The amount of money allocated to "Library services" in Division IV would be:

$$\frac{50}{100} \times \$10,000.00 = \$5,000.00$$

Thus the sum of money allocable to "Library services" in Division IV is \$5,000.00. All proration calculations in this study were made on the same basis.

Determination and Estimation of Actual Costs

The accrued costs for each expenditure account had to be procured in this stage. This necessitated the use of the ledger sheets, payroll summary sheets and reference invoices. All the personnel engaged in educational activities had to be categorized into their appropriate expenditure classification.

Determination and Estimation of Chosen Per Pupil Costs

This stage involved all the required calculations for determining per pupil costs for various activities. The proration calculations for allocating expenditures to the various schools, grade levels and subjects had to be made. While

projected costs and proration calculations to schools were done manually, much of the remaining work was done by computer.

V. Findings and Analysis

Significance, for the purposes of this study, was not based on a specific correlation or relationship between the variables under discussion. Rather, significance was based on an arbitrary and subjective scale.

On the basis of the data contained in the tables, comparisons, predictions and inferences were made. However, accurate and valid comparisons can only be claimed when the results of this study are viewed in relation to the results of similar studies presently being conducted. Attention is given to the limitations of these comparisons in the concluding chapter of this thesis.

VI. Summary

The purpose of this chapter has been to (a) provide an overview of the techniques of education cost analysis, and (b) present the general methodologies employed in this study. While some detail was entertained in the discussion of particular methodologies employed herein, the important aspects of this chapter were as follows: (a) outline and definitions of the expenditure classifications utilized in this study; (b) definition of the terminologies employed; and, (c) explanation of the per unit costs to be reported and general methodologies made use of to determine these costs.

Chapter 3

DATA SOURCES, COLLECTION AND TREATMENT

I. Introduction

The second stage of this thesis was concerned with applying the cost analysis model to the operational expenditures of Grande Prairie Public School District for the 1969-1970 school term. Prior to entering this stage the expenditure data sources had to be located and the appropriate data procured. In nearly every instance the expenditure data source was the ledgers of the District. Information relevant to staff workload was gathered through a Faculty Workload Survey (Appendix E). The additional information required was gathered by personal interview.

Expenditure data had to undergo two processings prior to analysis. The first of these processes entailed projecting the costs for the remainder of the school term so that total costs might be determined. The second of these processes was the application of prorational methods to allocate costs to specific schools and grades in these schools, as well as programs and subjects where possible. The projection and proration methods differed for each expenditure. The methods employed are outlined in the following section.

II. Determination and Proration of Actual Costs

In general, each projection method was established by the person in the School District most directly associated with the expenditure working in conjunction with the researcher. The projected figures were subjected to three checks, thereby ensuring accuracy. The first check was a review of each cost by the Secretary-Treasurer of the District. The second check entailed a comparison with the parallel account for the same time period of the previous school term, with allowances made for situational changes. The final check was a comparison of the projected figure for each expenditure for January 1 to August 31 against 66 2/3 percent of the projected figure for the 1970 Fiscal Budget, with allowances made for the nature of the expenditure (recurrent, seasonal, or single cost). While each of these methods may be subject to error, it was assumed that using all three would result in accurate projected figures.

100 a. Administrative Salaries

Projection. Salaries represent a regular monthly payment which showed little variation from month to month. As a new agreement for administrative and clerical staff salaries had been reached in February, 1970, projecting the costs to August entailed multiplying the monthly cost times the number of months remaining.

Proration. By interview it was determined that the Superintendent's salary should be charged equally to Divisions

III and IV and the Assistant Superintendent's salary should be charged equally to Divisions I and II. Once these had been placed in their correct Divisions they, and all other Administrative salaries, were prorated to the schools on a per pupil basis.

100 b. Administrative Expenses

Projection. In this classification each expenditure item had to be inspected individually to determine the most accurate method of projection. Some items, such as payments for Trustee's Board Meetings and Central Office Supplies, were of a regular nature and could be projected on a monthly basis. Other items, such as Auditor or Legal costs, were single cost items and were accepted as actual costs with allowances for any anticipated services to be rendered prior to August 31. Still other costs, such as expenses incurred going to conferences or Trustee's expenses fluctuate to such an extreme that anticipated expenditure as projected by the Secretary-Treasurer were accepted as actual.

Proration. These are costs of administering education throughout the District. Costs are prorated to schools by number of pupils registered.

200 a. Direct Salaries

Projection. The portion of each individual's salary chargeable to Indirect Salaries was determined, for example special allowances or extra preparation time for added responsibility. The portion that remained

represented salaries for teaching services rendered to pupils in the school system. This was then prorated to the courses on the basis of proportion of time spent teaching each course.

200 b. Indirect Salaries

Projection. Administrator, clerical, built-in substitute, guidance counsellor, librarian, and coordinator salaries, as well as bursaries, did not require projection as they represent annual contracts or portions thereof. Substitute costs (other than built-in substitutes) were projected on number of teaching days left in the year with allowances being made for the month of June when teacher attendance traditionally improves. Intern costs were established by the Assistant Superintendent whose responsibility it was to arrange for them.

Proration. Administrative, guidance counsellor, and clerical salaries were prorated to grade level on time spent on each grade level with the number of pupils method being used on the unallocable portion. Costs incurred by central office substitute services for the September 1 to March 31 period were on the ratio of 35 percent to Division I, 35 percent to Division II, 20 percent to Division III, and 10 percent to Division IV. Costs were allocated to the Divisions for the year on this ratio then prorated to the schools by the number of pupils method. To the Division III costs were added the expenditures of a built-in substitute program whereby each teacher was given one period out of ten to serve as a substitute when needed. Interns and bursary costs

were chargeable to individuals returning to specific Divisions or Grades. The costs were then prorated to these Divisions or Grades by the number of pupils method. Librarian costs were prorated to grade by number of rooms method. This was done because personal interviews determined the libraries were used proportionately by grade on the number of home rooms (or its equivalent) each grade had in the school. Co-ordinator or department head costs were prorated to the courses by the number of courses in the department.

200 c. Expenditures, Direct and Indirect

Projection. The textbooks, library books and supplies, and instructional supplies and equipment for the remainder of the school term had either been received or placed on order. For this reason projection was unnecessary. Accrued costs were taken, with allowances being made for items intended for the 1970-1971 school term.

Proration. Grande Prairie's ledgers were most complete and accurate in this classification. Textbooks and instructional supplies and equipment were charged to specific subjects in each school. In these areas, therefore, no proration had to be done. Library books and supplies were charged to individual schools. Proration to grade level was done on the number of registered rooms basis. The general unallocable classification [200 c. (4)] was prorated to school, then to grade level in the school, using the number of pupils method.

500 Pupil Transportation Services

Projection. Regular bus transportation was a contracted service in Grande Prairie and for this reason the total cost was already established. The only other transportation costs assumed by the District were those of a student registered in a private school. This is a non-recurrent cost and is, likewise, established for the term.

Proration. Students living more than a mile and a half from school are given passes to travel on the contracted bus services. The school and grade of each pass holder was recorded so that proration of these costs were on actual expenditure per grade per school. The costs of transportation to the private institution was deemed a District cost and prorated to each school on a number of pupils basis.

600 Plant Operation

Projection. Salaries were by annual agreement which was reached in February, 1970. Projection to August 31 was by monthly cost multiplied by the number of remaining months. Utilities costs for the five month period April 1 to August 31, 1970, were assumed to approximate the same time period of 1969 as there were no changes in physical plants. These figures were corrected to reflect an increase in rates since 1969. Supplies for all buildings were ordered in bulk through the Head of Maintenance. This individual projected his anticipated expenditures for supplies to be used during the time period under investigation based on supplies on hand, nature of supplies to be ordered, and anticipated summer projects

chargeable to Plant Operation. Central Office costs for supplies were included in the previous orders leaving only caretaking costs which were also by contract and therefore established.

Proration. Salaries and Utilities were recorded on a per school basis in the Grande Prairie District. Proration per grade was done on the basis of number of registered rooms (or its equivalent) of each grade in the school. This was done following an interview with the Head of Maintenance who suggested this is the most equitable method of allocating these costs. Similarly Supplies and Central Office costs were allocated to grade level on the basis of number of rooms while the cost of operating the Central Office was charged to grade level by the number of pupils method.

700 Plant Maintenance.

Projection. Projected costs in this classification were determined by the Head of Maintenance. These costs, in turn, had to be reviewed by the researcher to eliminate costs chargeable to Capital.

Proration. Repairs and replacements to buildings, equipment, and grounds were recorded and projected on a per school basis. For these items prorations to the grades was done on a per pupil basis. General maintenance costs and maintenance of Central Office were prorated to the schools and to the grades by the number of pupils method.

800 Fixed Charges

Projection. Most employee benefits were based on salaries earned. For this reason projecting these figures entailed multiplying the average monthly cost by the number of months remaining. This method was also applied to rent. Workman's Compensation was a fixed assessment and therefore established. Taxes and insurance were budgeted on the fiscal year. To establish these costs one-third of the actual amount for fiscal 1969 had to be added to two-thirds of the budgeted amount for fiscal 1970.

Proration. These costs all appeared aggregated in the ledgers. As a result they were treated as costs of the District and prorated to school and grade level on the number of pupils basis.

1400 Outgoing Transfer Accounts

Projection. The only Outgoing Transfer Account in Grande Prairie District was tuition and boarding to a private school. Monthly projection rate was established and concluded June 30 for the current school term.

Proration. This too, was treated as a District cost and prorated to school and grade level by the number of pupils method.

III. Treatment of Data

Having subjected the expenditure data to the preliminary treatments of projection and proration, this information was then ready for computer analysis. It was coded and

punched on computer cards.

The analysis used a cost analysis computer program, COSTAN Ø1, developed by G. B. Hawley and C. Prokop which was made available through the Department of Educational Administration, University of Alberta. This program computed Direct, Indirect, and Implementary per pupil costs on a course, program, or school basis.

IV. Summary

The purpose of this chapter was to outline the sources, collection, and treatment of data. Sources of data included: (1) the Faculty Workload Survey; (2) the Accounts ledgers of Grande Prairie Public School District; (3) Fiscal budgets for 1969 and 1970; and (4) personal interviews. Initial treatment of data included projecting the costs to August 31, 1970, and prorating these costs to schools, programs, and where possible, subjects. Methods differed for various expenditure classifications and the methods employed are reported in this chapter. The final stage, that of computer analysis, is outlined as to function.

Chapter 4

PER PUPIL COSTS

I. Introduction

The purpose of this chapter is to report findings relative to the specific sub-problems outlined in Chapter 1, namely (1) the total operational costs of the Grande Prairie Public School District, (2) District costs per pupil, (3) the cost per pupil in each of the six schools, (4) the cost per pupil in each subject by grade division, (5) the per pupil subject cluster costs including allocable indirect costs, (6) the per pupil subject cluster costs for each Division, and (7) the per pupil costs by grade or selected program routes. All costs are for the 1969-1970 school year in the Grande Prairie Public School District and are limited to those expenditure classifications reported.

II. Expenditures Reported

It was previously noted that Capital Outlay and Debt Service have been excluded from this analysis. This is common practice in cost analyses and the justifications are well documented. However, the succeeding sections report expenditures on a per pupil basis and if analyses are to serve a comparative function some assurance must be made

that the expenditures reported parallel those of the other studies. Chapters 2 and 3 defined the terminologies, methodologies, and per unit costs employed in this study.

Another gross measure for comparing equitability among studies is comparing the percentage of total budget reported in the analyses. This study analyzed an operating budget of \$1,814,739.02. The projected total budget for the same time period was \$2,157,893.15. The expenditures subjected to analysis represent 84.1 percent of total budget. If similar methodologies are employed, results in other analyses should approximate this figure. Caution should be exercised when dealing with this figure. Variance can result from specific high Capital Outlay projects or few recent projects resulting in a low Capital Outlay.

III. District Per Pupil Costs

The total operational costs borne by Grande Prairie Public School District for the 1969-1970 term, as reported in Table 2, was \$1,814,739.02 which amounted to an average estimated per pupil cost of \$619.17. It is interesting to note that instruction costs accounted for 77.52 percent of total expenditures while Plant Operation, the second highest expenditure, totalled only 9.64 percent of total expenditures. Plant Maintenance accounted for 5.20 percent of total expenditures while the costs of administering the District represented 4.06 percent of operating expenditures. The remaining three classifications, namely Pupil Transportation Services,

Table 2

General and Specific Classification Cost Breakdown for the
Grande Prairie Public School District: 1969-1970

Item Classification	Total Cost	Cost/ Student	Percentage of Total
100 ADMINISTRATION	(73,689.88) ¹	(25.39)	(4.06)
a) Salaries	63,692.88	21.95	3.51
b) Expenses	9,997.00	3.44	.55
200 INSTRUCTION	(1,406,868.40)	(484.79)	(77.52)
a) Direct Instr.	1,050,552.00	362.01	57.89
b) Indirect Salaries			
1) Admin.	102,804.00	35.43	5.66
2) Clerical	27,864.94	9.60	1.54
3) Guid. Counsellors	17,767.00	6.12	.98
4) Substitutes	30,043.53	10.35	1.66
5) Ints. & Burs.	3,450.00	1.19	.19
6) Librarians	21,262.26	7.33	1.17
7) Coordinators	8,435.00	2.91	.46
c) Dir.-Indirect Expenses			
1) Textbooks	26,410.00	9.10	1.46
2) Library	21,557.00	7.43	1.19
3) Instr. Supplies & Equip.	79,003.68	27.22	4.35
4) Other	17,719.00	6.11	.98
500 PUPIL TRANSPORTATION SERVICES	(23,437.00)	(8.08)	(1.29)
600 PLANT OPERATION	(174,940.91)	(60.28)	(9.64)
a) Salaries	73,377.00	25.29	4.04
b) Utilities	84,650.00	29.17	4.66
c) Supplies	12,539.00	4.32	.69
d) Central Office	4,374.91	1.51	.24
700 PLANT MAINTENANCE	(94,285.83)	(32.49)	(5.20)
800 FIXED CHARGES	(36,198.00)	(12.47)	(1.99)
1400 OUTGOING TRANSFER ACCOUNTS	(5,318.00)	(1.83)	(.29)
Totals	1,814,739.02	625.33	99.99

¹Parentheses denote cost for General Classifications. The figures without parentheses represent breakdowns for the sub-classifications. In Series 500, 700, 800, and 1400 there are no sub-classifications and therefore these figures are to be considered in both General and/or Specific analyses.

Fixed Charges, and Outgoing Transfer Accounts represented 3.57 percent of the total with no classification being greater than two percent of budget. No classification expenditure resulted in a per pupil cost of less than twenty-five cents and for this reason no classification was eliminated.

Sub-classifying the general classifications led to more specific per pupil costs. Direct instructional costs, that is, costs borne by teachers' salaries, amounted to 57.89 percent of total expenditures while administration of the local school amounted to 5.66 percent or \$35.08 per pupil. Plant Maintenance (5.20 percent of total) and Utilities (4.66 percent of total) both consumed more of total expenditures than did instructional supplies and equipment (4.35 percent of total).

IV. Per Pupil Costs by School

Table 3 further refines the expenditures of the Grande Prairie Public School District into costs to individual schools. This was done by totalling all costs allocable to schools. Where some District costs are allocable only on a per pupil basis, the per pupil cost was determined by dividing by the total number of pupils as outlined in Table 42 of the Appendices, then allocated to the schools on the number of registered pupils as outlined in Table 43.

Some of the differences between the operating costs of schools becomes evident in this table. Subject Coordinators

Table 3

Total Operational Costs Allocated to Each of the Six Schools in Grande Prairie
Public School District: 1969-1970

Expenditure Series	Cost per School						Total
	Montrose Elementary	Swanavon Elementary	Avondale Elementary	Hillside Elementary	Montrose Jr. High	Composite High School	
100 ADMINISTRATION							
a) Salaries	3,699.24	11,624.64	7,822.59	8,630.10	14,900.45	17,400.65	63,692.88
b) Expenses	591.68	1,864.48	1,253.88	1,393.20	2,211.92	2,583.44	9,997.00
200 INSTRUCTION							
a) Direct Salaries							
1) Instruction	58,372.00	150,580.00	121,274.00	116,818.00	241,006.00	362,502.00	1,050,552.00
b) Indirect Salaries							
1) Admin.	6,311.00	15,100.00	13,166.00	11,866.00	23,452.00	32,909.00	102,804.00
2) Clerical	1,560.26	3,354.37	1,894.38	1,560.26	7,325.00	12,170.00	27,864.94
3) Guid. Coun.	-	-	-	-	-	17,767.00	17,767.00
4) Substitutes	801.00	2,286.00	1,538.00	1,687.00	22,829.00	906.00	30,043.52
5) Ints. & Burs.	51.88	165.12	78.16	122.88	-	3,000.00	3,450.00
6) Librarians	-	2,328.00	-	958.00	3,766.26	14,210.00	21,262.26
7) Coordinators	-	-	-	-	-	8,435.00	8,435.00
c) Indir.-Dir. Exps.							
1) Textbooks	1,107.00	3,935.00	2,159.00	2,444.00	5,818.00	11,210.00	26,410.00
2) Library	1,154.00	3,476.02	2,649.56	2,788.40	5,752.00	5,727.00	21,557.00
3) Instr. Supplies & Equip.	2,965.00	4,283.00	3,251.00	3,844.00	19,388.00	47,770.00	79,003.68
4) Other	815.00	1,776.17	1,659.03	1,752.79	2,727.00	5,937.00	17,719.00
500 PUPIL TRANSPORTATION SERVICES							
	40.00	188.00	139.00	131.00	69.00	22,849.00	23,437.00

continued

Table 3 (continued)

Expenditure Series	Cost per School					Total
	Montrose Elementary	Swanavon Elementary	Avondale Elementary	Hillside Elementary	Montrose Jr. High	Composite High School
600 PLANT OPERATION						
a) Salaries	7,356.00	8,083.00	7,470.00	6,353.00	13,260.00	30,855.00
b) Utilities	3,587.00	9,520.00	7,294.00	6,707.00	13,551.00	43,991.00
c) Supplies	1,116.00	993.00	1,114.00	923.00	2,272.00	6,121.00
d) Central Office	264.89	813.00	451.68	596.90	1,035.54	1,212.90
						4,374.91
700 PLANT MAINTENANCE	7,276.90	10,354.14	9,335.62	8,565.54	23,342.37	35,412.26
						94,286.83
800 FIXED CHARGES	2,304.00	6,612.00	4,440.00	4,802.00	8,313.00	9,725.00
						36,198.00
1400 OUTGOING TRANS-FER ACCOUNTS	335.00	968.00	649.00	702.00	1,218.00	1,425.00
						5,318.00
TOTALS	99,707.85	238,303.94	187,638.90	182,645.07	412,236.54	694,118.92
						1,814,739.02
						(1,814,682.18)
					Error	56.84 ¹

¹Totals taken from Table 2. Minor inaccuracies appear in individual columns due to application of proration methods. This error represents 0.003 percent of total expenditures.

and Counsellors were found only in Division IV. Librarians, commonplace at both Divisions III and IV, were found in only two elementary schools. The high cost of substitute services in the Junior High School was due to the built-in substitute program in this school. More attention will be focussed on this program during discussion of per pupil costs. Obviously however, the greatest single difference in operational costs of schools lay in costs of direct instruction. Up to this point the tables have given aggregate costs. Comparison on this basis are not equitable. Table 43 of the Appendices illustrates the varying enrolments of the schools. Focus should be on the per pupil costs of operating each school.

Table 4 reduces the aggregated school costs to per pupil costs. The difference in operating costs of the four elementary schools is noticeable. The smallest enrolment (Montrose) had the highest per pupil cost in Elementary schools. This cost was \$62.00 higher than the next closest school. A difference of \$43.25 was noted in comparing these two schools on Plant Maintenance and Plant Operation. This was due to the Montrose school sharing their building with the Grande Prairie Junior College and the costs being assumed by the Public School District. Removing this cost brings the operational costs of Montrose more in line with those of Avondale. The lower costs of Swanavon and Hillside were largely a result of lower direct instructional costs. These costs reflected the higher salaries paid to teachers in Avondale and Montrose, which in turn indicated greater

Table 4

Average Estimated per Pupil Costs in Each of the Six Schools in the
Grande Prairie Public School District

Expenditure Series	Cost per Pupil per School											
	Montrose Elementary \$	Montrose Elementary %	Swanavon Elementary \$	Swanavon Elementary %	Avondale Elementary \$	Avondale Elementary %	Hillside Elementary \$	Hillside Elementary %	Montrose Jr. High \$	Montrose Jr. High %	Composite High School \$	Composite High School %
100 ADMINISTRATION												
a) Salaries	21.12	3.66	21.12	4.81	21.12	4.11	21.12	4.70	22.85	3.58	22.85	2.48
b) Expenses	3.44	.60	3.44	.78	3.44	.67	3.44	.76	3.44	.54	3.44	.37
200 INSTRUCTION												
a) Direct Sal.	339.37	58.88	277.82	63.22	332.71	64.68	288.44	64.12	374.81	58.65	482.69	52.35
b) Indirect Sal.												
1) Admin.	36.69	6.37	27.86	6.34	36.12	7.02	29.30	6.51	36.47	5.71	43.82	4.75
2) Clerical	9.07	1.57	6.19	1.41	5.20	1.01	3.85	.86	11.39	1.78	16.21	1.76
3) Guid. Coun.	-	-	-	-	-	-	-	-	-	-	23.66	2.57
4) Subs.	4.27	.74	4.27	.97	4.27	.83	4.27	.94	35.48	5.55	1.19	.13
5) Ints. & Burs.	.32	.05	.32	.07	.32	.06	.32	.06	-	-	3.99	.43
6) Librars.	-	-	4.30	.98	-	-	2.37	.52	5.86	.92	18.92	2.05
7) Coordinators	-	-	-	-	-	-	-	-	-	-	11.23	1.22
c) Ind.-Dir. Exps.												
1) Texts.	6.44	1.12	7.26	1.65	5.92	1.15	6.03	1.34	9.05	1.42	14.93	1.62
2) Library	6.71	1.16	6.41	1.46	7.27	1.41	6.91	1.54	8.95	1.40	7.63	0.83
3) Instr. Supplies & Equip.	17.24	2.99	7.90	1.80	8.92	1.73	9.49	2.10	30.15	4.72	63.61	6.90
4) Other	2.99	0.52	2.87	0.65	3.62	0.70	2.64	0.58	3.13	0.49	6.77	0.73
500 PUPIL TRANSPORTATION SERVICES	0.37	0.08	0.37	0.10	0.37	0.09	0.37	0.09	0.10	0.02	30.22	3.28

continued

Table 4 (continued)

Expenditure Series	Cost per Pupil per School									
	Montrose		Swanavon		Avondale		Hillside		Montrose	
	Elementary \$	%	Elementary \$	%	Elementary \$	%	Elementary \$	%	Jr. High \$	Composite High School \$
600 PLANT OPERATION										
a) Salaries	42.77	7.42	14.91	3.39	20.49	3.98	15.69	3.48	20.62	41.09
b) Utilities	20.85	3.62	17.56	4.00	20.01	3.89	16.56	3.68	21.07	58.58
c) Supplies	6.49	1.13	1.83	0.42	3.06	0.60	2.28	0.50	3.53	8.15
d) Central Off.	1.56	0.28	1.56	0.35	1.56	0.30	1.56	0.34	1.56	1.56
										0.17
700 PLANT MAINTENANCE	42.31	7.34	19.10	4.35	25.61	4.98	21.15	4.70	36.30	47.15
										5.11
800 FIXED CHARGES	12.47	2.16	12.47	2.84	12.47	2.42	12.47	2.77	12.47	12.47
										1.35
1400 OUTGOING TRANS- FER ACCOUNTS	1.83	0.32	1.83	0.42	1.83	0.36	1.83	0.41	1.83	1.83
										0.20
TOTALS	576.33	100.01	439.43	100.01	514.33	99.99	449.83	100.00	639.06	921.99
										99.99

experience and training on the faculties of these schools. This is born out by the qualifications and experience breakdown by school in Table 44 in the Appendices.

Another difference in per pupil operational cost may be observed in comparing the Elementary schools with the Junior High School. With the exception of Montrose Elementary, the cost of educating a Division III student was between \$100 and \$200 greater than a Division I or II student. Part of this greater expense was due to higher costs for instructional supplies and equipment. Of greater importance were the direct instruction costs which ranged from approximately \$35.00 to \$100.00 more per pupil in Division III. The built-in substitute program accounted for an additional per pupil cost of \$30.00. It should be noted that if the program were dropped and the time reclassified as Preparation Time, the total cost would not be reduced. Substitute Services would decrease but direct instruction costs would increase.

The highest costs per student were found at the Division IV level. These costs were nearly \$300.00 greater than at Division III, and between \$350.00 and \$490.00 greater than Divisions I and II. The reason which accounts for the greater proportion of this difference was direct instruction which accounted for between \$100.00 and \$210.00 increase, dependent upon the school of comparison. Coordinators and Guidance Counsellors were found only at the Division IV level. These services accounted for \$35.00 more per student than found at the other three Divisions. All four sub-classifications

in Indirect-Direct Instructional Expenditures were higher at Division IV. The most noticeable of these were higher costs for textbooks and instructional supplies and equipment which totalled \$78.54 as compared to the next highest (Division III) total of \$39.20. These costs will be dealt with extensively in the following section. The higher cost per pupil for Pupil Transportation Services in Division IV reflected the costs incurred by transporting District students to the one centralized High School. The majority of the remaining differences were found in the costs of Plant Operation and Plant Maintenance. Division IV costs in these areas are approximately \$75.00 higher than Divisions I, II, and III, excluding the previously-discussed Montrose Elementary school. This difference was primarily a function of size of plant. The areas of the various buildings operated by the Grande Prairie Public School Board are found in Table 46 of the Appendices. The Composite High School is more than double the area of the Junior High School and is more than four times the area of any other building. The same cannot be said for their enrolments. This accounts for the higher per pupil costs in Plant Operation and Plant Maintenance in this school.

Approximately 60 percent of operational costs were incurred in the instructional processes. This includes direct instruction, coordinators, textbooks, and instructional supplies and equipment. These costs were allocable to either courses or course clusters. The next section will

deal with a more intensive analysis of course costs.

V. Per Pupil Costs by Course

The costs of instructing a course consist of instruction, services, supplies, and/or equipment directly associated with that course. By far the largest cost was direct instruction which represents the portion of teachers' salary chargeable to a course.

Per pupil direct instruction costs have two determinants. The first is prorated teachers' salary, the methodology of which is discussed on pages 26 and 29. This methodology resulted in aggregated course direct costs. The cost per pupil was determined by dividing the number of pupils enrolled into this aggregate. Per course per pupil costs, therefore, is essentially the amount of teacher time spent on the course related to its enrolment. Tables 23, 24, 25, and 26 in the Appendices give the time spent, the enrolment, and the resultant cost per enrolment for every course taught in each school while Tables 5, 6, 7, and 8 summarize this information for the District.

Table 5 summarizes the Division I course costs. The most expensive course in Grade One was Language with Art and Health the least expensive. The sharp decline in the costs of Grade Two Language was due partly to less time spent and partly to greater differentiation among courses of the Language Arts cluster, i.e. Grade Two marked the first appearance of Spelling as an individual course. Similarly costs of

Table 5

Costs per Student per Course for Division I in the Grande Prairie
Public School System: 1969-1970

Course	Gd.	Cost/ Enrol.	Course	Gd.	Cost/ Enrol.	Course	Gd.	Cost/ Enrol.
Art	1	9.15	Enterprise	1	31.76	Health	1	9.15
	2	11.99		2	21.41		2	8.25
	3	11.21		3	27.80		3	10.40
Language	1	111.11	Arithmetic	1	61.11	Printing	1	20.09
	2	23.01		2	43.33	and/or	2	16.73
	3	22.17		3	36.13	Writing	3	13.73
Reading	1	89.00	Spelling	1	-	Science	1	21.95
	2	82.71		2	18.85		2	15.24
	3	63.97		3	17.27		3	15.46
Opening	1	21.10	Relief			Remedial	X	90.28
Exercises	2	17.32	Teaching	X ²	50.84		2	138.03
	3	13.87		1	41.08		3	73.72
Library Per.	1	19.73	Supervised	2	29.92	Home	1	-
and/or	2	16.17	Study	3	28.47	Room	2	4.72
Storytime	3	10.33		X	29.87	Period	3	16.34
General	1	-	Literature	1	-			
Remed. Inst.	2	202.88		2	-			
	3	-		3	18.62			
Kindergartens		151.52	Opportunity Class		727.39			
			Indirect Cost					
Course	Gd.	Per Enrol ¹	Total	Course	Gd.	Per Enrol.	Total	
Phys. Ed.	1	14.46	2.02 16.48	Music	1	11.61	.91 12.51	
	2	10.02	2.02 12.04		2	12.14	.91 13.05	
	3	7.74	2.02 9.76		3	8.83	.91 9.74	

¹Indirect Costs calculated from the figures in Table 37, Appendices.

²X refers to a course or program which has not designated grade area.

remedial instruction increased greatly in this grade and certainly include some Language instruction. Excluding the remedial program the most expensive course to teach was Reading which is followed, in cost, by Arithmetic. The least expensive continued to be Health. In Grade Three, Reading and Arithmetic remained as the most expensive courses but Physical Education became the least expensive.

It was possible to determine instructional supplies and equipment costs for Physical Education and Music in Divisions I and II. These are found in Table 37 of the Appendices. These costs have been prorated to enrolment in these courses and added to the direct instructional costs in Tables 5 and 6. Costs for these courses, therefore, include some indirect costs.

Table 6 gives the per pupil course costs for Division II. Reading and Mathematics continued to be the most expensive courses but costs for Enterprise (Social Studies), particularly in Grades Five and Six, increased to rank with them. Health continued as the least expensive course and was joined by Writing at the Division II level.

At Division III and IV it was possible to determine more indirect costs than at Divisions I and II. In Tables 7 and 8, therefore, the indirect instructional costs are given in addition to the direct costs allocable to specific courses. The breakdown of these indirect costs are found in Tables 38 and 39 in the Appendices.

It has previously been noted that the Grande Prairie

Table 6

Costs per Student per Course for Division II in the Grande Prairie
Public School System: 1969 - 1970

Course		Cost/ Gd. Enrol.		Course		Cost/ Gd. Enrol.		Course		Cost/ Gd. Enrol.	
Art	4	11.52	Enterprise	4	37.71	Health	4	5.41			
	5	14.13		5	59.55		5	8.70			
	6	12.20		6	43.98		6	5.41			
Language	4	22.14	Mathematics	4	44.69	Reading	4	57.19			
	5	31.07		5	51.09		5	64.32			
	6	29.63		6	44.37		6	48.59			
Spelling	4	16.41	Science	4	18.25	Writing	4	8.27			
	5	19.32		5	30.07		5	7.20			
	6	17.26		6	28.61		6	9.16			
Opening Exercises	4	19.44	Library Per.	4	13.61	Supervised	4	28.47			
	5	6.86	and/or	5	9.11	Study	5	13.30			
	6	6.82		6	8.70		6	10.69			
Home Room Period	4	11.91	General Rem.	4	13.89	Religious	4	-			
	5	13.76	Instruction	5	28.21	Instructions	5	26.21			
	6	-		6	296.77		6	-			
Remedial Reading	4	63.19	French	4	-						
	5	110.58		5	14.17						
	6	68.05		6	14.91						
Course	Gd.	Ind. Cost /Enrol. ¹		Total	Course	Gd.	Ind. Cost /Enrol.		Total		
Physical Ed.	4	7.86	2.02	9.88	Music	4	7.14	.80	7.94		
	5	18.92	2.02	20.94		5	17.97	.80	18.77		
	6	14.46	2.02	16.48		6	14.74	.80	15.54		
Elem. Band		13.28	.80	14.08	Elem. Strings		38.24	.80	39.04		

¹Indirect Costs calculated from the figures in Table 37,
Appendices.

Table 7

Costs per Student per Course for Division III in the
Grande Prairie Public School System: 1969-1970

Course	Cost/ Indirect				Course	Cost/ Ind. Cost			
	Gd.	Enrol.	Cost/Enr. ¹	Total		Gd.	Enrol.	Cost/Enr. ¹	Total
Language	7	64.32	1.17	65.49	Reading	7	25.77	5.40	31.17
	8	67.93	.40	68.33		8	34.02	14.27	48.29
	9	70.22	.40	70.62		9	27.28	1.64	28.92
Creative Writing	7	-	-	-	Communi- cations	7	-	-	-
	8	-	-	-		8	25.74	.32	26.06
	9	35.17	.32	35.49		9	25.74	.32	26.06
Social Studies	7	29.42	1.38	30.80	Sociology	7	-	-	-
	8	28.82	.81	29.63		8	32.68	.75	33.43
	9	31.16	.75	31.91		9	33.50	.75	34.25
Psychology	7	-	-	-	Social Problems	7	-	-	-
	8	42.24	.75	42.99		8	26.75	.75	27.50
	9	45.59	.75	46.34		9	-	-	-
Anthropology	7	27.62	.75	28.37	Geography	7	27.16	.75	42.99
	8	-	-	-		8	35.88	.75	46.34
	9	-	-	-		9	35.88	.75	27.91
Mathematics	7	36.09	3.98	40.07	Math OptionX ²	7	47.81	.35	48.16
	8	36.85	3.85	40.70		8	-	-	-
	9	34.65	4.64	39.19		9	40.50	.35	40.85
Science	7	44.45	6.71	51.16	Science Option	7	42.50	3.21	45.71
	8	43.90	4.07	47.97		8	35.40	3.21	38.61
	9	33.49	3.92	37.41		9	30.04	5.56	33.25
French	7	27.27	.52	27.79	Choral Music	7	19.55	5.56	25.11
	8	30.22	.52	30.74		8	14.76	5.56	20.32
	9	26.28	.52	26.84		9	-	-	-
Band	7	42.10	5.56	47.66	Orchestra	7	-	-	-
	8	53.58	5.56	59.14		X	10.53	5.56	16.09
	9	10.77	5.56	16.33		9	12.68	5.56	18.24
Music Appreciation	7	-	-	-	Art	7	27.18	4.31	31.49
	X	27.88	5.56	33.44		8	26.35	4.31	30.66
	9	11.91	5.56	17.47		9	28.66	4.31	32.97
Drama	7	23.00	4.57	27.57	Phys.Ed.	7	34.29	2.32	36.61
	8	29.90	4.57	34.47		8	38.46	2.32	40.78
	9	35.40	4.57	39.97		9	44.80	2.32	47.12

continued

Table 7 (continued)

Course	Gd.	Cost Enrol.	Ind.Cost Enrol ¹	Total	Course		Cost/Ind.Cost Gd.Enrol/Enr. ¹	Total
Phys.Ed.								
Option 9		27.17	2.32	29.49	House Super.	7	10.87	-
Industrial								
Arts	7	47.57	9.07	56.64	House Econom-	7	55.29	7.09
	8	46.07	9.07	55.14	ics	8	50.97	7.09
	9	42.82	9.07	51.89		9	54.11	7.09
						X	68.76	7.09
Supervised								
Study		47.74	-	-	Opp. Class			
					Home Ec.		140.37	7.09
Opportunity								
Class		1,673.00	4.30	1,677.30				

¹Indirect per Enrolment Costs have been calculated from Table 38, Appendices.

²The X symbol in the grade column signifies an unspecified grade level for that particular course.

Table 8
Costs per Student per Course for Division IV in the Grande Prairie
Public School System: 1969-1970

Course	Cost			Ind. Cost			Cost			Ind. Cost				
	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total		
English	10	57.59	4.88	62.47	English	13	72.95	9.04	81.99	Literature	11	33.69	.73	34.42
	20	56.32	3.42	59.74		23	49.68	1.92	51.60		21	46.65	1.20	47.85
	30	82.50	3.49	85.99		33	56.91	1.81	58.72		31	-	-	-
Reading	10	30.90	2.09	32.99	Language	11	-	-	-	Social	10	53.19	2.98	56.17
	20	-	-	-		21	58.95	2.82	61.77	Studies	20	45.75	1.60	47.35
	30	-	-	-		31	-	-	-		30	47.53	1.21	48.74
Psychology	10	-	-	-	Sociology	10	-	-	-	Economics	10	-	-	-
	20	39.15	1.21	40.36		20	69.09	1.21	70.30		20	-	-	-
	30	-	-	-		30	-	-	-		30	50.12	1.21	51.33
Biology	10	25.33	6.24	31.57	Chemistry	10	28.22	3.46	31.68	Physics	10	36.17	4.75	40.92
	20	28.90	6.24	35.14		20	32.60	3.46	36.06		20	34.72	6.15	40.87
	30	54.15	9.72	63.87		30	64.93	3.46	68.39		30	56.24	4.69	60.93
Science	11	70.46	3.46	73.92	Physics	12	-	-	-	Math	10	46.18	1.82	48.00
	21	-	-	-		22	-	-	-		20	55.69	2.03	57.72
	31	-	-	-		32	104.11	3.46	107.57		30	64.04	2.70	66.74
Math	12	62.01	2.00	64.01	Math	14	76.26	1.57	77.83	Math	15	57.78	5.80	63.58
	22	68.50	2.86	71.36		24	-	-	-		25	99.45	20.21	119.66
	32	84.45	1.57	86.02		34	-	-	-		35	-	-	-

continued

Table 8 (continued)

Course	Cost			Ind. Cost			Cost			Ind. Cost		
	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total	Gd.Enrol.	Enrol.	Total
Math	11	-	-	-	-	-	10	43.95	6.28	50.23	10	31.37
	21	-	-	-	-	-	20	34.86	6.28	41.14	20	313.74
	31	55.66	61.02	5.36	5.36	61.02	30	209.16	6.28	215.44	30	-
Music	10	22.56	54.13	31.57	31.57	54.13	11	69.61	31.57	101.18	10	63.93
	20	31.79	63.36	31.57	31.57	63.36	21	117.07	31.57	148.64	20	82.78
	30	173.25	204.82	31.57	31.57	204.82	31	198.90	31.57	230.47	30	92.59
French	11	51.07	54.00	2.93	2.93	54.00	10	43.95	11.45	55.40	10	42.64
	21	-	-	-	-	-	20	69.73	11.45	81.18	20	51.53
	31	-	-	-	-	-	30	84.72	11.45	96.17	30	94.54
Fab.&Dress	10	104.54	118.91	14.37	14.37	118.91	10	83.64	15.34	98.98	10	130.32
Drafting	10	59.73	67.69	7.96	7.96	67.69	10	49.81	7.96	57.77	10	49.31
Bookkpg.	10	48.83	53.17	4.34	4.34	53.17	12	130.32	52.74	183.06	10	50.51
	20	51.52	60.54	9.02	9.02	60.54	22	180.03	61.96	241.99	20	62.95
	30	149.40	159.18	9.74	9.74	159.18	32	432.07	45.29	477.36	30	91.29
Data Proc.	22	48.14	61.37	13.23	13.23	61.37	20	37.45	33.22	70.67	32	51.99
Off. Prac.	30	60.86	62.90	2.04	2.04	62.90	10	229.52	105.53	335.05		

continued

Table 8 (continued)

Course	Cost			Ind. Cost			Cost			Ind. Cost		
	Gd. Enrol.	Enrol.	Total	Gd. Enrol.	Enrol.	Total	Gd. Enrol.	Enrol.	Total	Gd. Enrol.	Enrol.	Total
Automotives	12	59.58	128.12	187.70	Beauty	Cul.	12	188.32	138.30	326.62	Bldg.	Const.
	22	179.57	128.12	307.69			22	204.01	138.30	342.31		
	32	375.13	128.12	503.25			32	203.06	138.30	341.36		
Electronics	12	75.54	109.27	184.81	Machine	Shop	12	880.11	693.49	1573.60		
	22	227.67	109.27	336.94			22	880.11	693.49	1573.60		
	32	512.26	109.27	621.53			32	-	-	-		

¹ Indirect per Enrolment Costs have been calculated from the figures in Table 39, Appendices.

Public School District rented their textbooks to the students. Use of gross costs, therefore, may require explanation. As textbook costs were allocable to course these costs were included to give a truer indication of course costs. If specific allocation was not possible, net costs would have been used.

Table 7 gives the course costs of Division III subjects. Extremes in course costs were not as noticeable at this level as class size and length of periods became more standard. As some courses received more periods than others, major cost differences are still a result of time spent on course. The exception to this statement was the per pupil cost of operating an Opportunity Class. The per pupil cost was \$1,677.30 but this figure represented an enrolment of only ten pupils, each of whom received 1,500 minutes instruction per week. With this exception noted, Language continued as the most expensive course. Home Economics and Industrial Arts, which appeared for the first time in Division III, were the second and third most expensive courses to operate on a per pupil basis. This was due to their low registrations and high indirect costs. Optional courses appeared in Division III. The per pupil costs for these courses fluctuated greatly, dependent primarily on enrolment. As an example, Grade Seven Band cost \$47.66 per pupil while Grade Nine Band cost only \$16.33. Of the core academic subjects Social Studies had the lowest per pupil cost, although Reading was higher only because of large textbook orders during the year.

The impact of indirect costs was most evident at the Division IV level. The Technical courses were the most extreme in this regard with costs ranging from Building Construction with an indirect per pupil cost of \$62.80 to a high of \$693.49 for Machine Shop. These costs were a result of the higher equipment costs demanded by vocational courses and the lower registrations in these courses. However, it could be added that most course costs were higher in Division IV than in the other Divisions. Direct instructions costs were higher because of higher teacher salaries which reflected better qualifications of teachers at this level (Table 44, Appendices) and the greater amount of preparation time given these teachers. Division IV teachers were granted as much preparation time as attributed to Division III teachers in preparation time and stand-by substitute service combined.

Due to the wide variety of programs offered in Division IV it is difficult to speak of core academic courses. For example a student can select one or more of three mathematics courses in Grade Ten, three more in Grade Eleven, and an additional three in Grade Twelve. Despite these courses all being five credit courses, per pupil costs ranged from \$48.00 for Mathematics 10 to \$119.66 for Mathematics 25. Differing costs were once again primarily due to varying enrolments. Comparisons of course costs were made difficult as course credit values, which represent instruction time, varied. Science courses showed a range of \$31.57 for Biology 10 to \$107.57 for Physics 32. However Biology was a three

credit (120 instruction minutes per week) course while Physics was a five credit (200 instruction minutes per week) course. Comparisons became even more difficult among courses from different program routes. Chemistry 10 cost \$31.68 while Machine Shop 22 cost \$1,573.60 per pupil but the Chemistry course was worth three credits and was taught to 202 students while the Machine Shop course was worth twenty credits and was taught to three pupils.

The previous paragraph illustrates another problem that can result from focussing attention strictly on per pupil costs. Total course costs have not been discussed up to this time. Low registration resulted in apparent high cost courses. This was true of per pupil costs but often not true of total costs. One way of looking at these costs is on a per credit or per hour basis. Some attention will be given this later in this chapter. Another way of looking at course costs is to group related courses into clusters. In so doing the cost of offering a field of study, as opposed to individual courses, can be determined. The following section deals with both total and per pupil course cluster costs.

VI. Per Pupil Costs by Course Clusters

The concept of clustering courses was of benefit not only to Division IV but could also be utilized in the other three Divisions. In Divisions I and II, for example, some problems were encountered in the Faculty Workload Survey in

the field of Language Arts. Some teachers reported they taught less time in Language but also taught Spelling, Reading, Printing and/or Writing, and Literature. Pupil costs per course, therefore, were inaccurate for comparisons unless an aggregating method was used. Likewise total costs were more meaningful when viewed as aggregates. Division III, to illustrate, offered an extensive Music program with per pupil course costs ranging from \$16.09 to \$59.14. While no course was exceptionally expensive, there were nine courses in the Music program. Adding the three Art courses and the three Drama courses brought the total cost of the Fine Arts cluster to \$30,876.64 which compared with \$29,267.11 for the Mathematics cluster or \$31,667.56 for the Social Studies cluster. This type of knowledge can be of assistance to educators when faced with program decisions.

Clusters utilized in this study are found in Tables 29, 30 and 31 in the Appendices. Tables 9, 10, 11 and 12 aggregate costs into course cluster costs. Aggregate costs were allocated on both per enrolment and per pupil bases. Cost per enrolment gives the average cost for total registrations in all courses in the cluster while cost per pupil represents the average cost of offering the cluster to the students in the Division. This was done to indicate the relative costs of the clusters. It also served as a check for minor discrepancies in the Faculty Workload Survey. In the clusters that represent courses in themselves, for example, Physical Education and, in Division I and II,

Mathematics and Science, the cost per enrolment should be the same as the cost per pupil. However due to minor errors in either the Workload Survey or District records these figures seldom correspond.

Table 9 contains the cluster costs for Division I. By far the most expensive cluster was Language Arts which had a total cost of \$100,929.94 and was a cost per pupil of \$139.60 for the year. Some individual programs, such as Opportunity Class, Remedial Instruction, and Kindergartens, had a high cost per enrolment figure but low total cost figure. Excluding Remedial Instruction the least expensive cluster in both total cost and cost per pupil was Physical Education followed by Teacher Supervised Non-Instruction Time and Supervised Non-Instruction Time. Some changes in costs appeared in Division II. It is indicated in Table 10 that Language Arts was still the most expensive course both in total and in per pupil costs but not to the degree found in Division I. Enterprise activities were more expensive than Mathematics at this level. Of the clusters offered to all pupils in Division II, Physical Education remained the least expensive.

Language Arts persisted as the most expensive cluster in total and in per pupil costs in Division III but at \$85.20 was only \$34.78 more than the Science cluster. Cost per enrolment figures revealed Home Economics as the most expensive course in the school, excluding the Opportunity Class, and French as the lowest. Physical Education, the lowest

Table 9

Course Cluster Instructional Costs for Division I in Grande Prairie
Public School District: 1969 - 1970

Course Cluster	Total Cost	Cost/ Enrol. ¹	Cost/ ² Pupil	Indirect Cost ⁴	Total	Cost/ Enrol.	Cost/ Pupil
Enterprise	23,585.75	19.65	32.62	-	-	-	-
Language Arts	100,929.94	42.30	139.60	-	-	-	-
Mathematics	34,573.96	47.30	42.62	-	-	-	-
Science	12,513.03	17.77	17.31	-	-	-	-
Phys. Ed.	8,499.54	10.70	11.76	1,457.78	9,957.32	12.54	13.77
Fine Arts	16,285.73	10.78	22.53	660.97	16,946.70	11.22	25.07
Remed. Inst. Teacher Supervised	8,092.93	115.61	X ³	-	-	-	-
Non-Instr. Supervised	11,341.83	15.43	15.69	-	-	-	-
Non-Instr.	9,620.12	24.99	X	-	-	-	-
Opp. Class	16,729.99	1,520.91	X	-	-	-	-
Kindergarten ⁵	22,423.40	154.64 ⁶	X	-	-	-	-

¹Cost per Enrolment figures represent an average cost for total registrations in all courses in the course clusters.

²Cost per Pupil figures represent the average cost per Division I pupil in the District.

³The courses designated with an X are charged only to the pupils registered as the courses are not common to all pupils in the Divisions.

⁴Indirect costs taken from Table 37, Appendices.

⁵Not really a Division I Course, Kindergartens have been placed on this Table for convenience.

⁶Figure represents a half-day enrolment for each pupil.

Table 10

Course Cluster Instructional Costs for Division II in Grande Prairie
Public School District: 1969 - 1970

Course Cluster	Direct Total Cost	Cost/ ₁ Enrol.	Cost/ ₂ Pupil	Indirect Cost ₃		Cost/ Total Enrol.	Cost/ Pupil
Enterprise	32,416.50	31.26	47.95	—	—	—	—
Language Arts	66,967.00	29.96	99.06	—	—	—	—
Mathematics	31,277.95	46.61	46.27	—	—	—	—
Science	15,747.09	25.04	23.29	—	—	—	—
Fine Arts	15,844.70	12.58	23.44	628.06	16,472.76	13.07	24.37
Physical Ed.	7,130.03	11.80	10.55	1,385.20	8,515.23	14.09	12.60
Remedial Inst.	6,503.14	31.88	X ⁴	—	—	—	—
Teacher Sup.							
Non-Instr.	8,688.96	11.11	12.85	—	—	—	—
Supervised							
Non-Instr.	5,755.80	14.00	X	—	—	—	—
French	1,700.16	14.53	X	—	—	—	—

¹Cost per Enrolment figures represent an average cost for total registrations in all courses in the course clusters.

²Cost per Pupil figures represent the average cost per Division II pupil in the District.

³Indirect costs taken from Table 37, Appendices.

⁴The courses designated with an X are charged only to the pupils registered as these courses are not common to all pupils in the Division.

Table 11

Course Cluster Instructional Costs for Division III in
Grande Prairie Public School District: 1969-1970

Course Cluster	Direct Ins. Cost/ Total Cost	Cost/ Enrol. ¹	Cost/ Pupil ²	Indirect Cost ³	Total	Cost/ Enrol.	Cost/ Pupil
Fine Arts	25,855.84	24.51	40.85	5,021.00	30,876.84	29.27	48.78
Social Studies	30,758.56	30.61	48.59	909.00	31,667.56	31.51	50.03
Language Arts	52,066.03	46.78	82.25	1,864.00	53,930.03	48.45	85.20
Mathematics	26,449.11	36.48	41.78	2,818.00	29,267.11	40.37	46.24
Physical Ed.	27,369.23	34.69	43.24	1,597.00	28,966.23	36.71	45.76
Science	29,072.98	38.41	45.93	3,830.00	32,902.98	43.46	51.98
Industrial Arts	10,237.49	46.32	X ⁴	2,004.00	10,241.49	46.34	X
Home Economics	12,565.80	56.60	X	1,878.00	14,443.80	65.06	X
French	7,253.99	27.69	X	137.00	7,390.99	28.21	X
Opp. Class	16,729.99	1,673.00	X	430.00	17,159.99	1,716.00	X
Superv. Study	2,150.42	29.87	X	X	X	X	X

¹Cost per Enrolment figures represent an average cost for total registrations in all courses in the course clusters.

²Cost per Pupil figures represent the average cost per Division III pupil in the District.

³Indirect costs taken from Table 38, Appendices.

⁴The courses designated with an X are charged only to the pupils registered as these courses are not common to all pupils in the Division.

Table 12

Course Cluster Instructional Costs for Division IV in
Grande Prairie Public School District: 1969-1970

Course Cluster	Direct Inst. Cost Total Cost	Per Enrol.	Indirect Cost ¹	Total Cost	Cost Per Enrolment
Language Arts	60,080.58	56.10	3,609.00	63,689.58	59.47
Social Studies	42,092.72	51.02	1,607.00	42,699.72	51.76
Mathematics	43,073.36	57.58	2,217.00	45,290.36	60.55
Science	47,479.79	38.73	6,478.00	53,957.79	44.01
French	23,324.82	71.33	1,128.00	24,452.82	74.78
Fine Arts	12,570.99	55.87	3,757.00	16,327.99	64.03
Physical Ed.	24,032.83	53.64	5,131.00	29,163.83	65.10
Business Ed.	31,167.32	56.57	3,587.00	34,749.00	63.07
Home Economics	10,448.63	98.57	1,571.00	12,019.63	113.39
Industrial Arts	17,055.44	67.95	2,968.00	20,023.44	79.77
Vocational Ed.	50,577.13	230.95	27,437.00	78,014.13	356.23

¹Indirect Cost figures taken from Table 39, Appendices.

Table 13

Course Cluster Costs for Divisions I - IV for the Grande Prairie
Public School District: 1969-1970

Cluster	Div.	Total		Cost per Enrol. ¹	Cost per Pupil ²	Cluster	Div.	Total		Cost per Enrol. ¹	Cost Per Pupil
		Allocable Cost	Cost					Allocable Cost	Cost		
Language	I	100,929.94	42.30	139.60	Social Studies	I	I	23,585.75	19.65	32.62	
	II	66,967.00	29.96	99.06		II	II	32,416.50	31.26	47.95	
	III	53,930.03	48.45	85.20		III	III	31,667.56	31.51	50.03	
	IV	63,689.58	59.47	-3		IV	IV	42,699.72	51.76	-	
	Total	285,516.55			Total			130,369.53			
Mathematics	I	34,573.96	47.30	47.82	Science	I	I	12,513.03	17.77	17.31	
	II	31,277.95	46.61	46.27		II	II	15,747.09	25.04	23.29	
	III	29,267.11	40.37	46.24		III	III	32,902.98	43.46	51.98	
	IV	45,290.36	60.55	-		IV	IV	53,957.79	44.01	-	
	Total	140,409.38			Total			115,120.89			
Fine Arts	I	16,946.70	11.22	23.44	Physical Education	I	I	9,957.32	12.54	13.77	
	II	16,472.76	13.07	23.98		II	II	8,515.23	14.09	12.60	
	III	30,876.84	29.27	48.02		III	III	28,966.23	36.71	45.76	
	IV	16,327.99	64.03	-		IV	IV	29,163.83	65.10	-	
	Total	80,624.29			Total			76,602.61			
Teacher Sup. Non-Instr.	I	11,341.83	15.43	15.69	Supervised Non-Instruct.	I	I	9,620.12	24.99	- ⁴	
	II	8,688.96	11.11	12.85		II	II	5,755.80	14.00	-	
						III	III	2,150.42	29.87	-	
Total		20,030.79			Total			17,526.34			

continued

Table 13 (continued)

Cluster	Div.	Total		Cost per Pupil ²	Cluster	Div.	Total		Cost per Pupil
		Allocable Cost	Cost Enrol. ¹				Allocable Cost	Cost Enrol. ¹	
Opport. Class	Jr.	16,729.99	1,520.91	-	Home Economics	III	14,443.80	65.06	-
	Sr.	17,159.99	1,716.00	-		IV	12,019.63	113.39	-
	Total	33,889.98			Total		26,463.43		
Modern Languages (French)	II	1,700.16	14.53	-	Remedial Instr.	I	8,092.93	115.61	-
	III	7,390.99	28.21	-		II	6,503.14	31.88	-
	IV	24,452.82	74.78	-					
	Total	33,543.97			Total		14,596.07		
Industrial Arts	III	10,241.49	46.34	-	Business Ed.	IV	34,749.00	63.07	-
	IV	20,023.44	79.77	-					
	Total	30,264.93			Technical Ed.	IV	78,014.13	356.23	-

¹Cost per Enrolment figures represent an average cost for total registrations in all courses in the course clusters.

²Cost per Pupil figures represent the average cost of the cluster for each student in that Division.

³Due to the wide variety of programs offered in Division IV a cost per pupil figure would be meaningless.

⁴As these courses are not common to all students in the Division no cost per pupil figures have been calculated.

cluster in Divisions I and II, moved slightly up in costs but remained as the sixth most expensive cluster in both total costs and cost per enrolment.

Language Arts continued as the highest total direct instructional cost in Division IV but when the indirect costs were added to the clusters Vocational (Technical) Education became the highest total cost. Cost per enrolment figures had three of the four exploratory clusters higher than all regular academic courses. Vocational Education had the highest per enrolment cost at \$356.23 followed by Home Economics at \$113.39 and Industrial Arts at \$79.77. These costs were a result of low registration, longer periods of instruction, and high indirect costs, particularly in the area of supplies and equipment. French had the highest per pupil cost of the academic courses at \$74.78. It is interesting to note that Physical Education had the next highest per pupil cost at \$65.10 followed by Fine Arts at \$64.03. Surprisingly the total cost of the Fine Arts cluster in Division IV was \$14,548.85 less than in Division III while all other clusters, except Home Economics, increased over the Division III costs. Of these, Physical Education showed the least gain at less than \$200.00 while Science showed the greatest gain at approximately \$20,000.00. Despite this gain, Science had the lowest per enrolment costs at \$44.01. For ease of comparison the cluster costs for each Division have been placed on a single Table and appear as Table 13.

It is of limited value to speak of individual course

or course cluster costs in either total or per enrolment terms unless placed in the context of program routes. This type of aggregation is necessary to determine the actual cost of education a pupil. The following section deals with per pupil costs by program routes.

VII. Per Pupil Costs by Grade or Program Routes

For Divisions I and II the practice of totalling the costs of individual courses to arrive at grade costs results in inaccuracies. One previously-mentioned reason for this inaccuracy is the varying content of the courses reported in the Faculty Workload Survey. A further limitation of course costs is that classroom time spent on activities other than instruction tends to be overlooked. Finally, courses may be offered in some classes that are not common to all students in that grade. While it may be of merit to prorate entire programs, for example the Opportunity Class, to grades, it is questionable practice to prorate costs of a course specific to one classroom to all students in the grade.

To overcome these difficulties the per pupil costs by course cluster in grades were used. Placing courses into clusters overcame the difficulties of both the varying content of courses and courses which, although specific, which can be related to a course cluster. The Teacher Supervised Non-Instruction Time cluster represents activities other than instruction that utilizes classroom and classroom teacher's time but cannot be charged to a course cluster. Supervised

Non-Instruction Time represents services offered by schools which are not the classroom teacher's responsibility but do take a teacher's time with a group of students.

The direct instruction costs for students in Grades One to Six, therefore, can be represented by the course clusters, including the two general clusters, offered at each level divided by the total registrations in that grade. To this must be added the prorated per pupil costs for special programs.

The total cost of instructing a student at any level is the direct instruction cost of grade or program plus all indirect and implementary per pupil expenditures chargeable to that grade or program. These latter costs are the prorated costs of all expenditure classifications other than those reported in Tables 9, 10, 11, and 12. The per pupil indirect and implementary expenditures in Grande Prairie Public School District for 1969-1970 are reported in Table 41 of the Appendices.

Table 14 represents the costs for educating a pupil in Division I. It was noted that Grade One was the most expensive Division I grade at \$518.73 a year and that the mean cost of educating a student in Division I was \$487.43 a year. The cost differences among the grades in this Division were attributable primarily to costs of direct instruction.

Table 15 indicates that the mean cost of educating a student in Division II was little different from that of Division I. The average cost was \$480.99 for the Division

Table 14

Course Cluster and per Grade Costs for Division I in the
Grande Prairie Public School District: 1969-1970

Cluster	Grade One		Grade Two		Grade Three		Mean Div. I
	Total Cost	Cost/ ¹ Pupil	Total Cost	Cost/ Pupil	Total Cost	Cost/ Pupil	
Soc. Stud.	9,219.03	35.73	6,248.34	27.17	8,118.38	34.55	32.62
Language	41,778.44	161.93	34,679.26	150.78	28,689.08	122.08	139.60
Math.	15,827.91	61.35	10,183.47	44.28	8,562.58	36.44	42.82
Science	5,685.02	22.03	3,565.23	15.50	3,262.79	13.88	17.31
Phys. Ed.	3,891.03	17.10 ²	2,394.60	12.43	2,213.90	11.44	13.77
Fine Arts	4,915.64	19.96	6,228.41	27.99	5,141.68	22.79	25.07
Teach. Sup. ³							
Non-Inst.	822.74	3.19	3,858.45	16.78	4,269.85	18.17	15.69
Sup. Non- Instr.	3,433.98	13.31	3,061.30	13.31	3,127.85	13.31	13.31
Rem. Inst. ⁵	2,887.02	11.19	2,573.70	11.19	2,629.65	11.19	11.19
Per Pupil Direct Cost Per Grade		345.79		319.43		283.80	316.38
Ind.-Imp. Cost Per Grade ⁶		172.94		171.34		168.87	171.05
Total Cost Per Grade		518.73		490.77		452.67	487.43

¹Cost per pupil represents average cost for grade enrolment in District.

²Physical Education and Fine Arts figures have been corrected to include Indirect Costs (taken from Table 37, Appendices.)

³Teacher Supervised Non-Instruction Time (See Table 29, Appendices.)

⁴Supervised Non-Instruction Time.

⁵Remedial Instruction Time.

⁶ Indirect-Implementary Costs per Grade (taken from Table 41, Appendices.)

Table 15

Course Cluster and per Grade Costs for Division II in the
Grande Prairie Public School District: 1969-1970

Cluster	Grade Four		Grade Five		Grade Six		Mean Div. I
	Total Cost	Cost/ ¹ Pupil	Total Cost	Cost/ Pupil	Total Cost	Cost/ Pupil	
Soc. Stud.	9,285.58	40.02	13,986.20	64.75	9,144.71	40.11	47.95
Language	25,851.31	111.43	22,798.28	105.55	23,011.41	100.93	99.06
Mathematics	10,502.93	45.27	10,881.54	50.38	9,693.48	42.52	46.27
Science	4,454.05	19.20	5,713.88	26.45	9,893.48	43.39	23.29
Phys. Ed.	2,514.37	12.86 ²	2,157.02	12.01	2,458.64	12.80	12.60
Fine Arts	4,813.49	21.55	5,054.23	24.20	4,064.91	18.63	24.37
Teac.Sup. Non-Inst. ³	3,898.93	16.81	591.06	2.74	795.59	3.49	12.85
Sup. Non-Inst. ⁴	1,944.16	8.38	1,810.08	8.38	1,910.64	8.38	8.38
Rem.Inst. ⁵	2,486.14	10.72	2,273.95	10.53	1,774.96	7.78	9.47
Opp. Class	5,576.66	24.04	5,576.66	25.82	5,576.66	24.46	24.35
French	-	-	850.20	3.94	849.87	3.73	2.47
Per Pupil Direct Cost per Grade		310.26		334.75		306.22	311.06
Ind.-Imp. Cost per Grade ⁶		169.09		170.56		170.14	169.93
Total Cost per Grade		479.37		505.31		476.36	480.99

¹Cost per pupil represents average cost for grade enrolment in District.

²Physical Education and fine Arts figures have been corrected to include Indirect Costs (taken from Table 37, Appendices.)

³Teacher Supervised Non-Instruction Time (See Table 29, Appendices.)

⁴Supervised Non-Instruction Time.

⁵Remedial Instruction.

⁶Indirect-Implementary costs per grade (taken from Table 41, Appendices.)

with a range of \$476.36 for Grade Six to \$505.31 for Grade Five. Once again the cost differences were primarily due to the costs of direct instruction.

Division III gave rise to a problem which could not be resolved by the use of course clusters. As not all courses were compulsory in Grades Seven, Eight, and Nine there was a range of costs for educating a pupil in these grades dependent upon the options selected. The cost of the program ranged from the costs of the core or compulsory courses plus the least expensive optional courses to the core program plus the most expensive optional courses. Table 16 gives this range for each grade in Division III. In addition the costs of the most common route in each grade was determined. The programs were determined by the program routes offered in the District. These are found in Table 32 in the Appendices.

The core program in Division III was instructed for 900 minutes per week and ranged from \$224.25 for Grade Seven to \$227.41 for Grade Eight. The remaining 600 minutes per week were spent in optional courses. Costs for these courses varied greatly for reasons already discussed and as a result the cost range was pronounced. The smallest range was that of Grade Seven which was between \$560.74 to \$647.77 per pupil for one year. Grade Eight has the largest range, \$547 to \$667. These figures were of little value in determining the per grade cost as the ranges were too broad.

It may be of more value to speak of the most common

Table 16

Minimum and Maximum per Pupil Costs per Grade in Division III in
the Grande Prairie Public School District: 1969 - 1970

Grade Seven				Grade Eight			Grade Nine		
<u>Core Subjects</u>									
Language	65.49			68.33			70.62		
Mathematics	40.07			40.70			39.19		
Science	51.16			47.97			37.41		
Social Studies	30.80			29.63			31.91		
Phys. Ed.	<u>36.61</u>			<u>40.78</u>			<u>47.12</u>		
Total-Core Prog.	224.15			227.41			226.25		
Min-Max Totals Core Total	Min. Cost Opts. ¹	Most Common Opts.	Max. Cost Opts.	Min. Cost Opts.	Most Common Opts.	Max. Cost Opts.	Min. Cost Opts.	Most Common Opts.	Max. Cost Opts.
	25.11	59.51	59.51	16.09	59.51	59.14	16.33	56.55	56.55
	27.57	31.49	47.66	20.32	30.66	56.60	17.47	32.97	40.85
	27.79	27.57	45.71	26.06	33.43	48.29	18.24	34.25	39.97
	28.37	27.79	42.99	29.49	20.32	48.16	26.06	16.33	35.49
	108.84	146.36	195.87	91.96	143.55	212.19	78.10	140.10	172.86
Total Ind.-Imp. Cost ² Min-Max Cost/Gd.	224.15	224.15	224.15	227.41	227.41	227.41	226.25	226.25	226.25
	332.99	370.51	420.02	319.37	370.96	439.60	304.35	366.35	399.11
	227.75	227.75	227.75	227.75	227.75	227.75	227.75	227.75	227.75
560.74 598.26 647.77				547.12 598.71 667.35			532.10 594.10 626.86		

¹Minimum and Maximum Cost, and Most Common Options are designated in Table 32 in the Appendices.

²Indirect and Implementary Costs come from Table 41 in the Appendices.

options. These constitute the most typical programs in the Division III grades. However, there are two limitations to such consideration. First, an option is deemed common because it is highly enrolled. Being highly enrolled the per pupil cost is normally below the mean. Second, as clusters are no longer being considered, some programs are not included in these costs in either course or indirect-implementary figures. Examples of these omitted programs are Senior Opportunity Class and Supervised Study. The end result was that all grade levels appear less expensive than the \$639.06 mean for the school shown in Table 4. With these limitations noted, total cost for the most common program was \$598.26 in Grade Seven, \$598.71 in Grade Eight, and \$594.10 in Grade Nine.

It was difficult to determine grade costs in Division IV due to different programs, length of stay of each student, optional courses, and courses of varying credit value. Discussion of program costs is probably of greater value. Grande Prairie Composite High School offered six distinct program routes. These are outlined in Tables 33 and 34 of the Appendices. It became apparent that within each program route numerous alternatives remained in course selection. For this reason it was necessary to speak of minimum and maximum costs per program route.

Some restrictions had to be placed on these programs. Wherever possible, optional courses were drawn from those designated as either Special Interest, Fine Arts, Home Economics, or Industrial Arts and were at the grade level designated.

The option courses used are to be found in Table 35 of the Appendices. This artificial placement of options does not parallel the actual situation. In Division IV a pupil may elect nearly any course as an option. As he moves into his second and third years of High School he may select options from the lower grade levels. However, standardizing the electives resulted in figures more indicative of varying core program costs. Maximum number of credits for Grades Ten and Eleven were forty-two and Grade Twelve were forty. In determination of minimum cost programs no complete year represents less than forty credits. The figures can be used for program comparisons but as the limitations restrict actual determination of grade costs, indirect and implementary costs were not added.

Three matriculation program routes were recommended in Grande Prairie District. These were the unrestricted route, a restricted Mathematics-Science route, and a restricted English-Social Studies route. These routes are outlined in Table 17, 18, and 19. The Business Education program route is outlined in Table 20. The Technical Education program route is found in Table 21. The General Diploma route was not included because of its indefinable nature.

All three matriculation and the Business Education routes showed \$100.00 variance from the mean cost, ranging from \$1,362.33 per pupil for a High School Diploma in the English-Social Studies restricted route to \$1,555.90 for the Business Education program route. These figures were for

Table 17

Minimum and Maximum per Pupil Costs of the Unrestricted Matriculation
Program Route in Grande Prairie Public School System: 1969-1970

Grade Ten			Grade Eleven			Grade Twelve		
Courses in Program	Min. Cost Program ¹	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program
English 10(5) ²	57.59	57.59	At Least Two of:			English 30(5)	85.99	85.99
Social Stud. 10(5)	53.19	53.19	English 20(5)	59.74	59.74	At Least Four of:		
Phys. Ed. 10(5)	43.95	43.95	Lang. 21(5)		61.77	Social 30(5)	48.74	
Math 10(5)	46.18	46.18	Lit. 21(5)	47.85		Math 30(5)		66.74
French 10(5)	54.00	67.47	Social 20(5)	47.35	47.35	Math 31(5)	61.02	
I.A. General (5)	49.81	49.81	At Least Three of:			Chem. 30(5)		68.39
At Least Two of:			Mathematics 20(5)	57.72		Biology 30(5)	63.87	63.87
Chem. 10(3)	28.22	28.22	Chem. 20(3)	36.06	36.06	Physics 30(5)	60.93	
Biology 10(3)	25.33		Biology 20(3)	35.14		French 30(5)		96.64
Physics 10(3)		36.17	Physics 20(3)			Electives:		
Electives:			French 20(5)		40.87	Electives:		230.47
Fab. & Dress (5)		118.91	Electives:		86.31	Music 31(5)		215.44
Arts 10(5)	50.23		Psych 20(5)	40.36		Art 30(5)		204.82
	408.50	501.49	Art 20(5)	41.16		Music 30(5)	204.82	
			Music 20(5)	63.36		Economics 30(5)	51.33	
			Drama 20(5)			Phys. Ed. 30(5)	96.17	
			Music 21(5)		344.06			1032.36
			Phys. Ed. 20(5)		148.64			
					81.18	Total Minimum Program		1510.11
				428.74	905.98	Total Maximum Program		2439.83

¹Cost figures from Table 8.

²Figures in parentheses represent the credit value of the course.

Table 18

Minimum and Maximum per Pupil Costs of the Mathematics-Science Restricted Matriculation
Program Route in Grande Prairie Public School System: 1969-1970

Grade Ten			Grade Eleven			Grade Twelve		
Courses in Program	Min. Cost Program ¹	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program
English 10(5) ²	62.47	62.47	Two of:			English 30(5)	85.99	85.99
Social Stud. 10(5)	56.17	56.17	English 20(5)	59.74	59.74	At Least 3 of:		
Phys. Ed. 10(5)	55.40	55.40	Language 21(5)		61.77	Soc. Stud. 30(5)	48.74	
Math 15(5)	63.58	63.58	Literature 21(5)	47.85		Math 20/30(10)	124.46	
Science 11(5)	73.92	73.92	Soc. Stud. 20(5)	47.35	47.35	Chem. 20/30(8)		104.45
French 10 or 11(5)	54.00	67.47	French 20(5)	86.31	86.31	Biology 20/30(8)	99.01	
I. A. General (5)	49.81	49.81	At Least One of:			Physics 20/30(8)	101.80	101.80
Electives:			Math 10(5)	48.00		French 30(5)		96.64
Fabrics & Dress(5)		118.91	Chem 10(3)		31.68	Electives:		
Arts 10(5)	50.23		Biology 10(3)			Economics 30(5)	51.33	
	465.58	547.73	Physics 10(3)		40.92	Music 31(5)		230.47
			Electives:			Art 30(5)		215.44
			Phys. Ed. 20(5)		81.18	Music 30(5)		204.82
			Music 21(5)		148.64		511.33	1039.61
			Drama 20(5)		344.06			
			Psych. 20(5)	40.36		Total Minimum Program		1411.02
			Art 20(5)	41.14		Total Maximum Program		2488.99
			Music 20(5)	63.36				
				434.11	901.65			

¹Cost figures from Table 8.

²Figures in parentheses represent the credit value of the course.

Table 19

Minimum and Maximum per Pupil Costs of the English-Social Studies Restricted Matriculation
Program Route in Grande Prairie Public School System: 1969-1970

Grade Ten				Grade Eleven				Grade Twelve			
Courses in Program	Min. Cost Program	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program	Courses in Program	Min. Cost Program	Max. Cost Program			
English 13(5) ²	81.99	81.99	English 23(5)	51.60	51.60	One of:					
Reading 10(3)	32.99	32.99	At Least One of:			English 33(5)	58.72				
Social Stud.10(5)	53.19	53.19	Social 20(5)	47.35		English 30(5)	85.99	85.99			
Phys. Ed.10(5)	43.95	43.95	Sociology 20(5)			At Least Four of:					
Math 10(5)	46.18	46.18	Psychology 20(5)	40.36	70.30	Math 30(5)	66.74	66.74			
I.A.General (5)	49.81	49.81	At Least Three of:			Math 31(5)	61.02				
At Least Two of:			Math 20(5)	57.72		Chem.30(5)	68.39	68.39			
Chem.10(3)	28.22	28.22	Chem.20(3)	36.06	36.06	Biology 30(5)	63.87				
Biology 10(3)	25.33		Biology 20(3)	35.14		Physics 30(5)	60.93				
Physics 10(3)	36.17	36.17	Physics 20(3)		40.87	French 20/30 (10)		182.95			
Electives:			French 10(5)		67.47	Electives:					
Literature 11(3)	34.42	34.42	Electives:			Music 31(5)		230.47			
Fab.& Dress 10(5)	432.25	118.91	Drama 20(5)		344.06	Art 30(5)		215.44			
		525.83	Music 21(5)		148.64	Music 30(5)		204.82			
			Phys.Ed. 20(5)		81.18	Economics 30(5)	51.33				
			Music 20(5)	63.36	63.36		516.99	1054.83			
			Art 20(5)	41.14							
			Psych.20(5)	40.36							
				413.09	903.54	Total Minimum Program		1362.32			
						Total Maximum Program		2484.20			

¹Cost figures from Table 8.

²Figures in parentheses represent the credit value of the course.

Table 20

Minimum and Maximum per Pupil Costs of the Business Education Program Route
in the Grande Prairie Public School System: 1969-1970

Courses in Program	Grade Ten			Grade Eleven			Grade Twelve		
	Min.Cost Program	Max.Cost Program	Courses in Program	Min.Cost Program	Max.Cost Program	Courses in Program	Min.Cost Program	Max.Cost Program	
Eng.10 or 13(5) ²	62.47	81.99	At Least One of:			Eng.30 or 33(5)	58.72	85.99	
Reading 10(3)	32.99	32.99	Eng.20 or 23(5)			As Required:			
Social 10 or 13(5)	56.17	56.17	Language 21(5)		61.77	Math	61.02		
Phys.Ed.10 (10)	55.40	55.40	Literature 21(5)	47.85		Sciences			
Math 10,12or15(5)	46.18	57.78	At Least One of:			Social Studies			
Gen.Tech.10(10)	335.05	335.05	Social Studies20(5)			Business Machines			
Science 11 <u>or</u>		73.92	Sociology 20(5)		70.30	30 (5)	56.63	56.63	
At Least Two of:			Psychology 20(5)	40.36		Typing 20or30(5)	66.13	98.48	
Chem 10(3)	31.68		Math 20or 25(5)	57.22	119.66	At Least Two of:			
Biology 10(3)	31.57		Bkpg.10or20(5)	53.17	60.54	Shorthand 30(10)	96.58		
Physics 10(3)			Typing10or20(5)	53.16	66.13	Off.Prac. 30(5)	62.90	62.90	
Electives:			At Least One of:			Accounting 30(5)		159.18	
Literature 10(3)	34.42	34.42	Shorthand 10/20			Electives:			
	685.93	727.72	(10)	103.03		Music 31(5)		230.47	
			DataProc. 22(5)	61.37	61.37	Art 30(5)		215.44	
			Merchdsg.20(5)		70.67	Music 30(5)		204.82	
			Electives:			Economics 30(5)	51.33		
			Drama 20(5)				453.31	1113.94	
				416.66	344.06				
					854.50				
						Total Minimum Program		1555.90	
						Total Maximum Program		2696.16	

¹Cost figures taken from Table 8.

²Figures in parentheses represent the credit value of the course.

Table 21

Minimum and Maximum per Pupil Costs of the Technical Program Route
in the Grande Prairie Public School System: 1969-1970

Grade Ten			Grade Eleven			Grade Twelve		
Courses in Program	Min.Cost Program ¹	Max.Cost Program	Courses in Program	Min.Cost Program	Max.Cost Program	Courses in Program	Min.Cost Program	Max. Cost Program
Eng.10 or 13(5) ²	62.47	81.99	At Least One of:			Eng.30 or 33(5)	58.72	85.99
Reading 10(3)	32.99	32.99	Eng.20 or 23(5)			As required:		
Soc 1 10 or 13(5)	56.17	56.17	Language 21(5)		61.77	Math		86.02
Phy..Ed.10(5)	55.40	55.40	Literature 21(5)	47.85		Science	60.93	107.57
Math 10,12,or 15(5)	46.18	57.58	Math or Science			Social Studies	48.74	48.74
General Tech.(10)	335.05	335.05	as Required:	57.72	119.66	One of:		
Science 11(5) or		73.92	At Least One of:			Automotives 32(15)		
At Least Two of:			Automotives 12/22(20)			Beauty Cult.32(20)	341.36	
Chem 10(3)	31.68		Beauty Cult.12/22(20)			Bldg.Const. 32(15)		652.80
Biology 10(3)	31.57		Bldg.Const12/22(20)	429.34		Drafting 32(15)		
Physics 10(3)	651.51	693.30	Drafting 12/22(20)			Electronics 32(15)		
			Electronics 12/22(20)			Electives:		
			Mach.Shop 12/22(20)		3147.20	Economics 30(5)	51.33	
			Electives:			Music 31(5)	561.08	230.47
			Drama 20(5)		344.06			1211.59
			Art 20(5)	41.14				
			At Least One of:			Minimum Program Cost		1829.00
			Social Studies 20(5)					
			Sociology 20(5)		70.30	Maximum Program Cost		5647.88
			Psychology 20(5)	40.36				
				616.41	3742.99			

¹Cost figures taken from Table 8.

²Figures in parentheses represent the credit value of the course.

three years of High School. The minimum cost for the Technical route was \$1,829.00. In maximum costs the three matriculation routes ranged from the unrestricted route at \$2,439.83 to the restricted Mathematics-Science route at \$2,488.99. The Business Education route was \$200.00 more than the Mathematics-Science restricted route.

The potential cost of the Technical route was much greater than other routes, reaching \$5,647.88. It must be mentioned that this cost was a potential cost for extremely few students. As more students register in the highest-cost courses the per pupil cost drops. The maximum cost figures in Technical Education was largely a result of one course, that being Machine Shop 12/22 at \$3,147.20 per pupil for one year. Removal of this cost from the total drops the maximum figure to \$2,500.68. When one considers the apparent high cost of the Technical courses, this finding may be surprising. The solution lies in the fact that most of these courses were offered at twenty credits. Automotives 12/22 was a twenty credit course which had a per pupil cost of \$485.39. The per pupil per credit cost, determined by dividing credits into cost, for Automotives 12/22 was \$24.27. When compared with some academic courses, such as Sociology 20 at \$16.06 or English 30 at \$17.20, the costs of Technical courses do not appear as high.

Placing the Technical courses in the contest of Technical program routes further illustrates why the programs were not as expensive as one might assume. Pupils in the

Technical route generally completed their programs with high registration, low per pupil cost courses. The end result was that while both Business and Technical routes were slightly higher than the matriculation routes, this difference was less than \$200.00 total per pupil in all three years of Division IV.

VIII. Costs as a Function of Teacher Training and Experience

It has been suggested repeatedly throughout this chapter that the greatest single determinant of course, course cluster, grade, and program route costs was teachers' salary. Salary was determined by years of experience and years of teacher training. Therefore it may be of value to consider average experience and training for teachers per course cluster in the four Divisions. Table 22 gives this breakdown for Grande Prairie Public School District. This table was drawn from the course cluster teacher experience-training breakdown by school in Table 28 of the Appendices.

Comparing the experience and training of Division I teachers to Division II teachers demonstrated why Division I per pupil costs were slightly higher. While the teacher training was slightly higher in Division II, the Division I teachers had a full year's experience more than Division II teachers. This accounted for the differences in per pupil costs between the Divisions.

Years of teacher training increased greatly in

Table 22

Teacher Experience and Training in Course Clusters by Division in
The Grande Prairie Public School District: 1969-1970

Cluster	Division I		Division II		Division III		Division IV	
	Exp.	Training	Exp.	Training	Exp.	Training	Exp.	Training
Mathematics	6.03	2.2	5.37	2.8	4.67	4.2	5.45	4.2
Physical Education	5.25	2.4	4.70	3.2	4.20	4.0	3.75	3.8
Science	5.96	2.2	5.33	2.5	4.71	4.1	4.00	4.6
Social Studies	6.17	2.3	5.67	2.6	2.86	4.0	3.14	4.6
Remedial Instruction	6.00	2.8	4.33	2.8	-	-	-	-
Teacher Supervised								
Non-Instruction Time	6.32	2.3	5.58	2.5	-	-	-	-
Supervised Non-Instruction Time								
Fine Arts	5.64	3.4	6.44	2.7	-	-	-	-
French	6.24	2.3	5.59	2.6	6.00	2.8	9.00	3.5
Kindergartens	-	-	6.00	4.0	10.00	2.0	-	-
Opportunity Class	7.60	2.4	-	-	-	-	-	-
Home Economics	-	-	10.00	2.2	10.00	1.8	-	-
Industrial Arts	-	-	-	-	5.00	3.3	10.00	4.0
Business Education	-	-	-	-	3.50	3.5	7.50	3.9
Technical Education	-	-	-	-	-	-	6.20	3.0
Language Arts	6.06	2.4	5.33	2.6	-	-	8.00	3.6
					5.55	2.7	4.89	3.9

Divisions III and IV but experience showed little increase. The higher per pupil costs for these Division were partly attributable to this increased training. Division IV teachers had slightly more training and experience but not sufficient to account for the greater per pupil costs above Division III. This indicated the much greater indirect and implementary costs at the Division IV level.

Another interesting finding may be noted at the Division IV level. While Fine Arts, Technical, and Business courses were among the highest per pupil cost courses offered, they were being instructed by the least trained teachers. This indicated that if these teachers receive more training or are replaced by teachers of higher training, the costs for these courses would rise even higher. This was even more the case for the Language Arts cluster in Division III. Language Arts had the highest total cluster cost in Division III yet the average training of teachers in the cluster was 2.7 years which was more than one full year less than any other academic course except French.

Oddly, the cluster which had the highest trained teachers in Division I was Supervised Non-Instruction Time. This meant that the most highly trained teachers were centered in a cluster which has no teaching responsibility.

IX. Summary

Presented in this chapter were the various per pupil costs, some of their determinants discussed, and some of the

reasons for differences were looked at. The findings reported were: (1) the total operational costs of the Grande Prairie Public School District; (2) District costs per pupil; (3) cost per pupil per school; (4) cost per pupil per subject; (5) cost per pupil per subject cluster; (6) cost per pupil per subject cluster per Division; and (7) cost per pupil by grade or program routes.

The costs subjected to analysis represented 84.1 per cent of the District's total expenditure. This represented an average cost of \$619.17 per pupil registered in the Grande Prairie Public School District. It was found that Division III per pupil costs were \$100.00 more than either Divisions I or II and were \$300.00 less than Division IV. The major reason for greater costs lay in the area of direct instruction. Extra services, higher indirect costs, and greater costs of Plant Operation and Maintenance in Divisions III and IV made up the majority of the remaining differences. It was found that both total and per pupil costs were highest in the Language Arts cluster, excluding some special programs such as Home Economics and Vocational Education. Per grade or program costs closely paralleled the findings in Division costs, namely that beyond Divisions I and II costs increased on a per pupil basis. In Division IV little difference was found between the costs of the program routes offered.

Chapter 5

SUMMARY, FINDINGS AND CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS, FURTHER RESEARCH

I. Introduction

The purpose of this chapter is to present; first, a summary of the developments reported in previous chapters; second, the major findings reported in the preceding chapter and the specific implications and recommendations of these findings; third, some general recommendations and implications of the analysis; and finally, suggestions for further research and study.

II. Summary

The main problem of this thesis was to conduct an analysis into the financial operations of a school jurisdiction for one school term. The jurisdiction selected was the Grande Prairie Public School District for the 1969-1970 school term.

As the analysis was conducted prior to the conclusion of the school term, the first stage of the investigation projected the costs to the term's conclusion. This involved determining projection methods for each expenditure classification and applying them to determine the 1969-1970 costs.

Once costs had been determined, the study entered its second stage. This included determination of per pupil costs in the Grande Prairie Public School District per: (1) school; (2) grade; (3) grade division; (4) subjects taught per grade; (5) subject clusters per grade; (6) subject clusters per grade division; and, (7) program routes.

The sources of data were dependent upon the nature of the information required. The expenditure data sources were the ledgers of the District. Information relevant to staff workload was gathered through workload surveys. The additional information required, primarily clarifications necessary for projectional and prorational procedures, was gathered by personal interview.

III. Findings and Conclusions

Expenditures Reported

The expenditures subjected to analysis represented 84.1 percent of the projected total operating budget for the Grande Prairie Public School Board. The remaining 15.9 percent represented debt service and capital outlay as defined by this study.

The portion of budget not included in this analysis presented a limiting factor to this and associated analyses. Attempts to standardize definitions, data collection, and methodologies notwithstanding, the possibility of dissimilar results from analyses still remains. This presents a potential limitation on comparability of data.

This study, therefore, recommends that all gross costs reported by the jurisdiction be subjected to analysis. This recommendation is made with the following provisos: that no attempt be made to allocate debt service on any but the most general methods until either a different unit of analysis is developed and/or an equitable amortization methodology is devised; and, that the studies be viewed longtitudinally to guard against the effects of single large purchases chargeable to specific courses.

District Per Pupil Costs

The operational costs borne by the Grande Prairie Public School District were \$1,814,739.02 which amounted to an average estimated per pupil cost of \$619.17. Of this amount, 77.52 percent was incurred by costs of instruction with the second highest portion being Plant Operation at 9.64 percent. This was followed by Plant Maintenance at 5.20 percent. Direct instructional costs, that is, costs borne by teachers' salaries, amounted to 57.89 percent which was included in the general instruction classification.

Per Pupil Costs by School

In the process of allocating costs to schools some of the differences in operating costs became evident. For equitable comparison the aggregate costs of operating the schools were broken down to a per pupil basis. It became evident that schools offering the lower grades were less expensive per pupil to operate than those offering the higher

grades.

In the four elementary schools the per pupil costs were inversely related to enrolment. Reasons for this are evident. The same relationship existed in the school per pupil costs of school administration, plant operation, and plant maintenance. This indicates that certain expenditures are relatively stable and enrolments have little affect on them. For this reason it is more expensive to educate a child in a school of low registration than in a school of high registration.

Such a finding implies that larger centralized schools would be of greater cost benefit than smaller local schools. In actuality the true cost benefit is determined by comparing the aggregate non-centralized per pupil costs and aggregate centralized per pupil costs. The centralized costs would have to include all costs incurred in centralization but must also be corrected by some method of amortization.

Per Pupil Costs by Course

It was found that per pupil costs by course varied greatly. These costs were affected by: Division level of course offered; the salary of the teacher; the teacher time spent on the course; the enrolment of the course; and, the indirect expenses allocable to the course.

With these variables noted, the possibility of misinterpreting per pupil course cost information still exists. Low registration results in apparent high cost courses but total costs need not necessarily be high. Conversely, high

registration results in apparent low cost courses while total costs may, in actuality, be quite high. For example, a course with a direct instruction total cost of \$1,000.00 instructed to seven pupils results in a per pupil cost of \$142.89, while another course with a total direct instructional cost of \$3,000.00 instructed to forty pupils results in a per pupil cost of \$85.71. In the first instance programs in the early stages of development may, either because of low registration or high indirect costs brought on by purchase of new equipment, be dropped from the curriculum due to their apparent high cost. In the second instance additional courses, related to the apparent low cost one, may be added to the curriculum resulting in a cluster of related courses of extremely high total cost. Situations similar to these can lead to program expenditure imbalances not in keeping with the aims of the jurisdiction.

This is not to imply that per pupil course costs are without value. This study recommends that when viewing the total system-wide program, the use of groupings or clusters of courses be employed. Use of clusters can still determine total costs, per enrolment costs, and costs to the number of pupils in the Division but gives a clearer indication of the financial emphasis of the curriculum offered. With this type of overview, attention can be focussed on the general areas of the program requiring closer inspection. Closer inspection then requires the total and per pupil course costs of the courses making up the cluster area. Such information can

facilitate decisions relating to combining existing related courses, adding new related courses, increasing enrolments in certain courses, or restructuring the compulsory-optional course program. This study recommends the retention of per pupil course costs but notes the limitations of their use.

Per Pupil Cost by Course Clusters

It was found that course cluster total and per pupil costs are highest in the Language Arts cluster, excluding some special programs such as Home Economics and Vocational Education. This is true for each Division. In total costs for all Divisions it was found that the Mathematics cluster was the second most expensive, with Social Studies third, and Science fourth. These clusters were all less than half the total cost of Language Arts.

The per pupil costs by Division had Language Arts continuing as the most expensive cluster in all Divisions except Division IV. The three highest courses in total costs, namely Mathematics, Social Studies, and Science, exchanged cost per pupil rankings from Division to Division with Mathematics second in Division I, Social Studies second in Division II, Science second in Division III, and Mathematics the most expensive course in Division IV.

Somewhat puzzling was the extreme total cost of the Fine Arts cluster in Division III. This was even more confusing in view of the sharp decline in total costs for the cluster in Division IV. At \$29.27, the cost per enrolment was not drastically high in Division III. This indicated a

high number of related courses being offered in this cluster. Closer inspection revealed that while Dramatics and Art totalled six courses in the three grades, there were nine courses related to Music. This compared with six Music courses in Division IV.

While course cluster costs are of value in determining areas for specific analysis, a further use of these costs lies in the determination of grade and program costs. The next section deals with this use.

Per Pupil Costs by Grade or Program Routes

Kindergarten, while not normally offered by school jurisdictions, was assumed by the Grande Prairie Public School District with the parents responsible for an annual tuition payment of \$135.00. Total costs for each pupil were \$214.83 including a direct instructional cost of \$154.64. Based on these costs, this service to the community costs the District \$12,373.65.

It was found that the annual costs of educating a pupil in Grades One to Six varied little, ranging from \$452.67 in Grade Three to \$518.73 in Grade One. The differences were a function of varying salaries and enrolments.

Division III annual per pupil costs were \$100.00 more than either Divisions I or II. The main reason for this difference was higher direct instruction costs. This was due to higher salaries of teachers at the Division III level and greater preparation time given them. Higher indirect costs at this level accounted for most of the remaining differences.

As costs of the most common programs in Division III were all less than average costs of educating a Division III student, a larger proportion of registrations in the high cost optional courses was indicated. While this might imply registrations in high cost optional courses should be increased, thus reducing per pupil program costs, such decisions should consider total costs. To measurably lower total course costs the number of courses offered must be reduced and these students must be placed in existing courses or some other method for reduction of direct instructional costs must be employed. This latter possibility will be dealt with in the following section.

Annual per pupil costs at Division IV were \$300.00 greater than at Division III. The major reason for greater costs lay in the area of direct instruction. Extra services, higher indirect costs, and greater costs of plant operation and maintenance in Division IV made up the majority of remaining differences.

The difficulties of establishing grade costs in Division IV led to determination of program costs rather than costs for a specific year. The programs costed for comparisons included three matriculation routes, the Business Education route, and the Technical (Vocational) Education route. Once the costs per program were established the cost differences between programs were easily calculated. Technical Education was highest followed by Business Education. The three matriculation routes were least expensive. However,

these differences represented a minimum of three years in the programs and when viewed as per year differences, cost of programs varied less than the grades of Divisions I and II, providing one specific high cost Technical Education course is disregarded in these calculations.

The finding that Technical and Business Education program routes in Division IV need not be unduly expensive was of interest. While it was possible the cost differences were really greater than indicated, but not evident because of general prorational methods utilized in a few classifications, these differences were still less than commonly believed. It was therefore concluded that special programs need not be discontinued or curtailed for cost factors and that pupil demand is a better indicator of the financial feasibility of a course. Such demand need not be current only, but can be anticipated to project curriculum needs on a long-range view.

Costs as a Function of Teacher Training and Experience

It was suggested in the previous section that to reduce total course costs direct instructional costs must be lowered. Possible methods include increasing the enrolments of existing courses by reducing the number of courses offered and increasing teaching time by either increasing the length of school day and/or reducing the time off teaching duties given teachers.

Another determinant of course costs is teacher salaries which are governed by experience and years of teacher

training. Experience and training of staff members per course cluster were analyzed at each Division.

Experience and training analysis resulted in the findings that Division III and IV teachers had more years of teacher training than teachers at Divisions I and II. Little difference in years of experience existed among the Divisions.

Specific cluster analysis led to interesting findings. In Division I it was found that the most highly trained teachers were centered in a cluster which had no teaching responsibility. Generally, this responsibility was assumed by the school administrators. In Division III it was found that Language Arts, which had the highest total cluster and per pupil costs, was instructed by teachers with a mean of 2.7 years of teacher training. This was more than one full year less than any other academic course except French. At the Division IV level Fine Arts, Technical, and Business courses were among the highest per pupil cost courses offered but were being instructed by the least trained teachers. It is evident that if these teachers receive more training or are replaced by teachers with more training the costs for these courses would rise even higher.

These findings clearly indicate areas for further research. These will be dealt with in the section to follow.

IV. Implications and Recommendations

Specific implications and recommendations were dealt with in the preceding section. The purpose of this section

is to discuss the more general implications and recommendations of this study.

The primary recommendation is that all school jurisdictions adopt a cost accounting system that lends itself to annual cost analysis. Adoption of such a system would add a longitudinal dimension which would overcome the idiosyncratic limitations of studies similar to this one.

Longitudinal studies would enable jurisdictions to make increasingly accurate projections of future expenditures. However, to be more functional a price index should be employed to correct for inflationary effects.

To be of even greater value cost analyses should be comparable, as much as is possible, with other school jurisdictions. The benefits of such analyses could then be realized by Provincial educationalists. Before full benefits can be realized there must be complete agreement of accounting procedures, methodologies of analysis, and expenditures analyzed. This study recommends that studies analyze all expenditures processed through the offices of school jurisdictions and that effort be made to standardize accounting procedures and analysis methodologies.

V. Suggestions for Further Research

Assuming that all methodologies mentioned in the previous section can and will be standardized and that future analyses will be simplified to permit their annual conduct, longitudinal studies of educational expenditures appear

assured. This information can lead to related problems which require further study.

Some of these unclarified areas are strictly cost questions. There probably exists an optimum number of pupils that should be enrolled in a subject, program or school in order to obtain maximum returns for expenditures. This optimum number is undoubtable controlled by situational variables. Attention should be focussed on these situational variables that affect the financial operations of a school jurisdiction. Determination and definition of these variables would also have bearing on the adequacy or inadequacy of existing School Foundation Programs.

However, closely associated to the question of maximum returns for expenditures is the much broader question of the benefits or quality of education derived from these expenditures. Studies should develop and incorporate more sophisticated means of measuring output than are presently employed. Only the crudest measures of output are presently available. Cost decisions must be reached with a view to the educational output engendered by the expenditure. Attention must, therefore, be directed at determination of educational outputs.

The previous paragraph is not intended to imply that all questions of input are clear. While methodologies vary slightly, most jurisdictions determine the basic salary of a teacher by years of teacher training and experience. The assumption of this method of salary determination is that there exists a direct relationship between quality and

experience and training. This relationship demands further examination.

Further, cost analysis indicates inequality of educational expenditures to Divisions. This area definitely requires study. Direct instruction, many services, and instructional supplies and equipment are all given in increasing proportions to Divisions III and IV. The soundness of this philosophy has long been questioned. The philosophy can now be questioned from a cost position. If the additional services, equipment and supplies are of educational benefit, what justifications exist for their being allocated in varying proportions to the Divisions? If no benefits are derived from the additional expenditures, how is their existence justified? While these questions are general in nature, cost analyses leads to the posing of specific questions. For example, what is the justification for giving Division III and IV teachers twenty-five percent of their time off from teaching duties and Division I and II teachers less than five percent? Guidance Counsellors, Librarians, and Subject Coordinators perform what function? Are these functions of any value to lower Divisions, and if so, who is to supply them, bearing in mind that per pupil instructional, District administration, school administration, and clerical costs are lower in Divisions I and II? In truth, every expenditure classification in Grande Prairie Public School District results in equal or lower per pupil costs in Divisions I and II than in Divisions III and IV. The

Grande Prairie District is not unique and serves here as an example only. The implication is clear. Greater expenditures on any class of pupils requires justification other than common practice. Research should be directed at the justifications for Divisional per pupil cost differences.

The differences in educational inputs are clearly wider than Divisional questions. Physical plant, grounds, capital equipment, special classes and programs, even the political structure of the school board and community can all be viewed with a cost benefit approach in mind. In truth, absolute resolution of cost benefit analyses in education will never come as they are dependent upon absolute resolution of all other educational questions.

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APPENDIX A
DIRECT INSTRUCTION BY COURSE AND COURSE CLUSTERS
AND TEACHER TRAINING AND EXPERIENCE
BY SCHOOLS

Table 23

Estimated Direct Instruction per Pupil Costs for Division I in each of the Four Elementary Schools in Grande Prairie Public School System:1969-1970

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE		
		Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil
<u>Language Arts</u>													
Language	1	-	-	-	2,940	99	157.52	190	39	26.89	950	74	68.75
	2	150	26	28.16	395	85	21.33	360	64	28.33	180	59	17.39
	3	105	21	23.57	270	95	16.34	250	53	18.50	570	62	52.73
Printing and/or Writing	1	50	26	14.95	-	-	-	225	60	19.98	225	74	21.97
	2	150	26	28.16	60	30	7.92	250	64	19.55	135	59	13.10
	3	60	21	13.47	240	95	14.53	180	53	9.80	215	62	18.59
Reading	1	500	26	152.41	-	-	-	1,320	60	117.52	445	74	43.59
	2	400	26	75.00	1,215	94	63.87	1,150	63	90.66	1,105	60	107.22
	3	400	21	89.55	770	81	50.62	755	53	56.43	825	56	80.84
Spelling	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	320	85	17.33	320	64	24.71	150	59	14.70
	3	80	21	17.84	240	95	14.53	250	53	18.98	200	54	20.19
	3	-	-	-	-	-	-	150	29	18.62	-	-	-
<u>Literature</u>													
<u>Social Studies</u>													
Enterprise or Social Studies	1	45	30	7.23	180	73	13.23	270	60	24.00	675	74	66.27
	2	90	26	16.79	365	85	18.96	360	64	27.55	210	59	20.34
	3	180	21	40.40	475	95	28.97	180	53	13.44	390	62	34.02
Health	1	75	26	22.61	120	99	6.33	90	60	7.98	-	-	-
	2	-	-	-	120	57	8.84	135	64	10.23	15	29	2.72
	3	45	21	10.10	-	-	-	60	53	4.44	235	62	20.31
Mathematics	1	225	26	68.55	1,200	99	64.18	525	60	46.46	675	74	66.27
	2	225	27	40.68	810	84	44.10	560	64	43.30	450	60	43.49
	3	275	21	61.61	385	97	20.71	520	53	39.39	595	66	48.06

continued

Table 23 (continued)

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE		
		Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil
<u>Science</u>	1	150	26	45.58	240	99	12.72	240	60	21.23	270	74	26.58
	2	75	26	22.61	240	85	12.71	315	64	24.44	60	59	5.65
	3	45	21	10.10	340	98	17.02	150	53	10.92	150	39	20.62
<u>Fine Arts</u>													
<u>Music</u>	1	-	-	-	240	99	12.72	150	60	13.11	90	74	8.86
	2	60	23	12.55	235	115	11.34	220	85	13.45	120	59	11.63
	3	60	26	11.10	180	123	7.28	120	77	7.42	87	62	12.70
<u>Art</u>	1	75	35	10.46	90	73	6.61	90	60	7.98	120	74	11.98
	2	75	26	14.08	185	85	9.86	190	64	14.31	120	59	11.63
	3	60	21	13.47	180	96	10.87	120	53	8.88	150	62	12.94
<u>Physical Educa-</u>	1	75	36	16.33	240	99	12.72	180	60	16.06	150	74	14.60
<u>tion</u>	2	-	-	-	180	85	9.58	180	64	13.79	120	90	7.76
	3	120	21	26.93	180	181	4.85	60	29	7.45	120	55	10.07
<u>Special Courses</u>													
<u>Kindergarten</u>													
Jr. Opportunity		1,500	11	1520.91	1,600	52	168.23	1,500	51	148.09	1,480	42	135.00
					-	-	-	-	-	-	-	-	-
<u>Remedial Instruction</u>													
Rem. Reading		450	3	914.21	450	8	280.29	225	20	66.35	60	30	7.89
General Remedial Instruction		-	-	-	150	3	296.77	-	-	-	450	12	202.88
<u>Teacher Supervised Classroom Non-Instruction Time</u>													
Opening Exercises 1		-	-	-	-	-	-	150	39	21.10	-	-	-
	2	50	26	9.21	235	58	18.72	225	64	17.40	200	59	19.43
	3	100	21	22.22	250	95	15.03	150	53	11.22	45	27	8.46

continued

Table 23 (continued)

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE		
		Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil
Teacher Supervised Classroom Non-Instruction Time-continued													
Library Period	1	-	-	-	-	-	-	135	39	19.73	-	-	-
and/or Story	2	105	26	19.50	-	-	-	270	85	16.61	75	30	12.05
Time	3	30	21	6.73	50	31	9.69	135	53	12.29	15	8	9.25
Home Room	1	-	-	-	-	-	-	-	-	-	-	-	-
Period	2	-	-	-	60	58	4.72	-	-	-	-	-	-
	3	-	-	-	270	95	16.34	-	-	-	-	-	-
Supervised Non-Instruction Time													
Supervised Study	1	-	-	-	180	27	41.08	-	-	-	-	-	-
	2	-	-	-	150	30	47.45	-	-	-	-	-	-
	3	-	-	-	150	50	28.47	-	-	-	-	-	-
(General)	1-3	-	-	-	-	-	-	-	-	-	30	30	4.85

Table 24

Estimated Direct Instruction per Pupil Costs for Division II in each of the Four
Elementary Schools in Grande Prairie Public School System: 1969 - 1970

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE		
		Min. Per Week	En- rol- ment	\$ Per Pupil Week	Min. Per Week	En- rol- ment	\$ Per Pupil Week	Min. Per Week	En- rol- ment	\$ Per Pupil Week	Min. Per Week	En- rol- ment	\$ Per Pupil
<u>Language Arts</u>	4	150	23	37.48	290	86	19.50	270	55	28.03	295	77	16.29
	5	150	30	20.57	540	79	34.78	300	50	47.88	200	54	15.92
	6	150	30	24.10	540	81	33.92	300	54	37.63	200	57	18.85
<u>Writing</u>	4	30	23	7.28	180	76	11.91	90	55	9.01	100	77	5.84
	5	20	30	2.62	-	-	-	60	50	9.16	100	54	7.92
	6	-	-	-	-	-	-	90	54	9.10	125	59	9.21
<u>Reading</u>	4	275	23	49.45	765	75	54.27	750	55	76.59	795	73	48.00
	5	250	30	34.48	750	81	54.29	585	25	170.84	600	54	46.61
	6	405	60	32.53	900	82	53.63	600	54	47.84	630	61	58.27
<u>Spelling</u>	4	100	23	24.75	270	76	17.87	170	55	17.61	225	77	11.64
	5	100	30	13.71	-	-	-	150	50	22.69	-	-	-
	6	90	30	14.46	-	-	-	150	54	18.81	-	-	-
<u>Social Studies</u>													
<u>Social Studies</u>	4	270	23	67.69	475	104	32.01	390	55	38.21	480	60	33.94
<u>or Enterprise</u>	5	295	30	40.74	690	79	44.46	585	50	93.48	705	56	60.61
	6	240	30	38.56	690	81	43.36	525	54	41.86	225	29	55.20
<u>Health</u>	4	30	23	7.28	-	-	-	60	55	6.01	75	77	4.42
	5	30	30	4.03	-	-	-	60	50	9.58	130	56	10.43
	6	30	30	4.82	-	-	-	60	54	4.71	30	29	7.33
<u>Mathematics</u>	4	225	23	56.41	585	84	35.27	535	55	54.44	750	73	44.51
	5	250	30	47.99	765	79	45.28	480	50	73.29	510	54	40.74
	6	225	30	36.15	765	82	43.62	440	54	55.15	425	57	39.54

continued

Table 24 (continued)

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE		
		Min. Per Week	En-rol-ment	\$ Pupil Per Week	En-rol-ment	\$ Pupil Per Week	En-rol-ment	\$ Pupil Per Week	En-rol-ment	\$ Pupil Per Week	En-rol-ment	\$ Pupil Per Week	
Science	4	60	23	14.92	270	76	17.87	180	55	18.32	360	77	22.66
	5	60	30	8.27	360	79	21.33	300	25	87.50	320	56	28.45
	6	150	30	24.10	420	82	24.08	300	54	37.63	120	29	29.31
<u>Fine Arts</u>													
Music	4	60	23	10.78	180	114	7.85	60	55	6.01	148	77	8.68
	5	60	30	8.27	180	26	31.93	60	50	9.11	240	29	30.78
	6	45	30	11.69	180	27	30.75	60	54	8.44	-	-	-
		75	12	25.17	75	22	13.73	75	25	12.08	75	13	23.23
Elem. Band		75	4	75.50	75	10	30.20	75	4	43.14	75	4	75.50
Elem. Strings	4	60	23	14.92	180	77	13.19	120	55	12.01	150	77	8.46
Art	5	60	30	8.27	180	51	17.83	120	50	18.33	120	55	10.07
	6	60	30	9.64	185	54	17.26	120	54	12.09	120	61	9.08
Physical Ed.	4	60	23	14.92	180	157	5.60	60	55	8.28	180	85	9.85
	5	60	30	11.44	65	30	11.90	120	25	35.00	120	29	20.06
	6	-	-	-	215	86	12.44	120	54	14.94	120	30	19.39
French	5	-	-	-	-	-	-	-	-	-	120	60	14.17
	6	-	-	-	-	-	-	-	-	-	120	57	14.91
<u>Remedial Instruction</u>													
General Inst.	4	-	-	-	-	-	-	30	27	5.06	80	84	6.84
	5	-	-	-	-	-	-	-	-	-	120	50	9.98
	6	-	-	-	-	-	-	-	-	-	-	-	-

continued

Table 24 (continued)

Course	Gd.	MONTROSE			SWANAVON			AVONDALE			HILLSIDE			
		Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	
Remedial Instruction - continued														
Reading	4	-	-	-	150	2	445.15	150	14	63.19	-	-	-	-
	5	-	-	-	150	3	296.77	150	8	110.58	-	-	-	-
	6	-	-	-	150	3	296.77	150	13	68.05	-	-	-	-
Teacher Supervised Non-Instruction Time														
Opening	4	50	23	12.37	250	76	23.29	165	55	17.08	-	-	-	-
Exercises	5	50	30	6.86	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	25	27	6.27	30	29	7.33	-
Library Period	4	105	23	26.20	50	24	10.53	120	55	13.23	45	29	6.88	-
and/or Story	5	50	30	6.86	150	79	9.68	60	50	9.55	-	-	-	-
Time	6	105	30	16.87	150	84	8.35	60	54	4.71	-	-	-	-
Home Room	4	-	-	-	180	76	11.91	-	-	-	-	-	-	-
Period	5	-	-	-	90	28	13.76	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Ministerial Instruction	-	-	-	-	90	84	4.93	-	-	-	-	-	-	-
Supervised Non-Instruction Time														
Supervised	4	-	-	-	150	50	28.47	-	-	-	-	-	-	-
Study	5	-	-	-	150	30	22.53	30	25	8.75	90	58	10.49	-
	6	-	-	-	150	30	22.53	60	54	4.71	90	60	10.14	-

Table 25

Estimated Direct Instruction Costs for Division III in the Grande Prairie
Public School District: 1969 - 1970

Min.	En-rol-ment	Min	Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil	Min. Per Week	En-rol-ment	\$ Per Pupil
Language Arts														
Language														
7	2,550	225	64.52	73	450	7	25.77	-	7	-	-	-	-	-
8	3,150	220	67.93	65	525	8	34.02	-	8	150	25	25.74	-	-
9	2,400	199	70.22	44	225	9	27.28	30	59	35.17	9	150	25	25.74
Social Studies														
Social Studies														
7	1,200	223	29.42	-	-	7	-	-	7	-	-	7	300	62
8	1,200	228	28.82	81	375	8	32.68	75	14	42.24	8	150	32	26.75
9	1,050	200	31.16	79	375	9	33.50	75	13	45.59	9	-	-	-
Geography														
7	150	31	27.16	-	-	-	-	-	-	-	-	-	-	-
8	150	21	35.88	-	-	-	-	-	-	-	-	-	-	-
9	150	21	35.88	-	-	-	-	-	-	-	-	-	-	-
Mathematics														
Mathematics														
7	1,200	226	36.09	-	-	7	-	-	7	1,350	232	44.45	(7)	300
8	1,050	230	36.85	28	150	8	47.81	8	1,200	228	43.90	8	300	59
9	1,200	219	34.65	22	150	9	40.40	9	1,050	200	33.49	9	300	54
Science														
Science														
7	1,350	232	44.45	(7)	300	63	42.50	7	1,350	232	44.45	(7)	300	63
8	1,200	228	43.90	8	300	59	35.40	8	1,200	228	43.90	8	300	59
9	1,050	200	33.49	9	300	54	30.04	9	1,050	200	33.49	9	300	54

Continued

Table 25 (continued)

Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil	Min. Per Week	En- rol- ment	\$ Per Pupil
Fine Arts														
Choral Music														
7	275	77	19.55	7	150	28	42.10	7	-	-	-	7	600	120
8	275	102	14.76	8	150	22	53.58	(8)	125	31	10.53	(8)	275	64
9	-	-	-	9	300	73	10.77	9	150	31	12.68	9	150	33
Drama														
7	450	83	23.00											
8	300	58	29.90											
9	300	49	35.40											
Physical Education														
Physical Education														
7	1,200	228	34.29	7	-	-	-	Houseleague Supervision						
8	1,350	234	38.46	8	-	-	-	150	100	10.87				
9	1,200	187	44.80	9	150	40	27.17							
Industrial Arts														
Industrial Arts														
7	900	104	47.57											
8	750	86	46.07											
9	300	31	42.82											
Special Situations														
Opportunity Class														
1,500	10	1,673.00	300	42	47.74									
Home Economics														
Home Economics														
7	1,375	142	55.29											
8	375	42	50.97											
9	300	32	54.11											
Oppor. Home Ec.														
Oppor. Home Ec.														
150 6 140.37														
Non-Specified Home Ec.														
450 43 68.76														
French														
French														
7 600 133 27.27														
8 300 60 30.22														
9 300 69 26.28														

Table 26 (continued)

Min. Per Week	En- rol- ment	\$ Per Pupil
Machine Shop		
12	400	3 880.11
22	400	3 880.11
32	-	-

Table 27

Direct Instructional Costs by Course Clusters for Divisions I and II by School
for the Grande Prairie Public School District: 1969-1970¹

Cluster	Montrose			Swanavon			Avondale			Hillside		
	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil
<u>Division I</u>												
Math.	4,174.29	56.41	54.92	12,067.27	43.10	43.41	7,646.55	43.20	42.96	10,685.87	53.43	55.95
Phys.Ed.	1,153.36	20.23	15.18	2,951.61	8.09	10.62	2,062.15	13.48	11.59	2,332.42	10.65	12.21
Science	1,984.86	27.19	26.12	4,006.89	14.21	14.41	3,416.67	19.30	19.20	3,104.62	18.05	16.25
Opp.Class	8,860.00	805.45	-	-	-	-	-	-	-	-	-	-
Kndgrtn.	-	-	-	8,748.00	168.23	-	7,552.43	148.09	-	5,670.00	135.00	-
Social	2,301.64	18.56	30.28	6,459.67	15.79	23.24	5,284.23	14.93	29.69	9,540.22	30.48	49.95
Lang.	10,798.73	50.46	142.09	33,535.08	44.18	120.63	25,692.64	39.23	144.34	30,903.67	40.77	161.80
Rem.Instr.	2,742.62	914.21	-	1,352.00	270.40	-	1,327.00	66.35	-	2,671.30	63.60	-
Teac.Sup.	-	-	-	-	-	-	-	-	-	-	-	-
Non-Inst.	1,354.26	14.41	36.09	2,813.95	15.29	10.12	5,363.41	16.11	30.13	1,810.20	14.60	9.48
Sup.	-	-	-	-	-	-	-	-	-	-	-	-
Non-Inst.	1,525.10	50.84	-	5,782.20	22.24	-	162.40	7.06	-	145.42	4.85	-
Fine Arts	1,592.24	12.15	20.95	5,823.09	9.85	20.95	4,366.53	10.86	24.53	4,503.87	11.55	23.58
<u>Division II</u>												
Math.	3,821.49	46.04	44.96	10,116.89	41.29	42.51	9,636.79	60.61	60.61	7,702.81	41.86	39.91
Phys.Ed.	686.34	12.95	8.07	2,305.76	8.45	9.69	2,137.33	15.95	13.44	2,000.60	13.89	10.36
Science	1,314.22	15.83	15.46	5,017.21	21.17	21.08	5,227.13	39.01	32.88	4,188.55	23.93	21.70
French	-	-	-	-	-	-	-	-	-	1,700.16	14.53	-
Social	4,368.71	26.32	51.40	9,776.94	39.74	41.08	10,099.91	31.76	63.52	8,170.95	26.62	42.34
Lang.	7,986.66	24.06	93.96	22,301.35	35.07	93.70	21,598.31	35.35	135.84	15,080.75	22.99	78.14
Rem.Inst.	-	-	-	2,670.93	333.87	-	2,790.61	45.01	-	1,041.61	7.77	-

continued

Table 27 (continued)

Cluster	Montrose			Swanavon			Avondale			Hillside		
	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil	Total	Cost/ Enrol	Cost/ Pupil
<u>Division II (continued)</u>												
Teac.Sup.												
Non-Inst.	-	-	-	3,902.24	11.25	16.40	2,569.84	10.66	16.16	412.17	7.11	-
Sup.												
Non-Inst.	-	-	-	4,066.14	19.00	-	473.37	5.99	-	1,216.29	10.31	-
Fine Arts	2,331.28	12.81	27.43	6,017.21	15.79	25.28	4,075.61	11.64	25.63	9,199.31	30.77	47.66

¹Divisions III and IV are each taught in single schools. For this reason Tables 11 and 12 represent Course Cluster Costs for these Divisions for the total District.

Table 28

Teacher Experience and Training in Divisions I and II Course Clusters by School in
the Grande Prairie Public School District: 1969-1970

Cluster	Montrose		Swanavon		Avondale		Hillside	
	Exp.	Training	Exp.	Training	Exp.	Training	Exp.	Training
<u>Division I</u>								
Mathematics	10.0	2.3	4.8	2.0	5.5	1.9	6.6	2.9
Physical Education	10.0	2.0	3.9	2.2	5.4	2.0	5.5	3.2
Science	10.0	2.0	4.8	2.0	5.5	1.9	7.0	2.9
Opportunity Class	10.0	2.0	-	-	-	-	-	-
Kindergartens	-	-	8.5	3.0	8.0	2.0	6.5	2.0
Enterprise	9.5	2.3	4.5	2.4	5.5	1.9	7.3	2.8
Language Arts	10.0	2.3	4.9	2.2	5.5	1.9	6.8	2.9
Remedial Instruction	3.0	6.0	6.0	3.0	9.0	2.0	6.0	1.5
Teach. Sup. Non-Instr.	10.0	2.0	4.2	2.6	6.9	2.0	5.8	2.8
Super. Non-Instr.	3.0	6.0	5.9	2.9	10.0	2.0	3.0	3.0
Fine Arts	10.0	2.7	4.9	2.3	5.8	2.0	7.3	2.8
<u>Division II</u>								
Mathematics	6.5	3.0	4.0	2.2	7.8	3.6	4.3	2.7
Physical Education	5.0	4.0	2.3	2.8	9.7	3.7	2.0	3.0
Science	6.3	2.3	4.0	2.2	7.3	3.5	4.8	2.2
French	-	-	-	-	-	-	6.0	4.0
Enterprise	6.3	2.3	5.2	2.7	6.5	3.0	5.2	2.4
Language	6.3	2.3	4.6	2.4	7.5	3.2	4.6	2.6
Remedial Instruction	-	-	5.0	4.0	6.0	2.5	3.0	2.7
Teach. Sup. Non-Instr.	6.3	2.3	4.3	2.2	7.2	3.0	6.0	2.5
Super. Non-Instr.	-	-	6.0	2.5	7.5	2.5	7.0	4.0
Fine Arts	5.0	2.4	3.9	2.5	5.9	3.3	4.0	2.4

APPENDIX B
CURRICULUM AND PROGRAM INFORMATION

Table 29

Breakdown of Curriculum Clusters for Divisions I and II

Curriculum Cluster	Courses
Social Studies	Enterprise
	Social Studies
	Health
Language Arts	Language
	Printing and/or Writing
	Reading
	Library Periods and/or Story Time
	Spelling
	Literature
Mathematics	Arithmetic
Science	Science
Physical Education	Physical Education
Fine Arts	Music
	Art
	Elementary Band
	Elementary Strings
	Opening Exercises
Teacher Supervised Classroom	Home Room Period (Films)
Non-Instruction Time	Ministerial Time
Supervised Non-Instruction Time	Supervised Study
	Relief Teaching
Remedial Instruction	Remedial Reading
	General Remedial Instruction

Table 30

Breakdown of Curriculum Clusters for Division II

Curriculum Cluster	Courses
Social Studies	Social Studies
	Sociology
	Psychology
	Geography
	Social Problems
Language Arts	Anthropology
	Language
	Reading
	Communications
	Creative Writing
Mathematics	Mathematics
Physical Education	Mathematics Option
	Physical Education Option
	Physical Education
Fine Arts	Band
	Choral Music
	Music Appreciation Option
	Orchestra
	Art
	Drama
Home Economics	Opp. Home Ec.
	Home Economics
Industrial Arts	Industrial Arts
Modern Languages	French
Sr. Opportunity Class	Sr. Opportunity Class
Supervised Non-Instruction Time	Supervised Study

Table 31

Breakdown of Curriculum Clusters for Division IV

Curriculum Cluster	Courses Included
Social Studies	Social Studies 10, 20, & 30 Psychology 20 Sociology 20 Economics 30
Language Arts	English 10, 20, 30, 13, 23, 33 Literature 11, 21 Reading 10
Science	Biology 10, 20, 30 Chemistry 10, 20, 30 Physics 10, 20, 30 Science 11
Modern Languages	French 10, 11, 20, 30
Fine Arts	Music 10, 20, 30, 11, 21, 31 Art 10, 20, 30 Drama 10, 20
Physical Education	Physical Education 10, 20, 30
Business Education	Bookkeeping 10, 20 Accounting 30 Shorthand 10, 20, 30 Typewriting 10, 20, 30 Data Processing 22, 32 Merchandising 20 Business Machines 30 Office Practice 30
Mathematics	Mathematics 10, 20, 30, 12, 22, 32, 14, 15, 25
Home Economics	Home Economics 10 Food and Nutrition 10 Home Economics Crafts 10
Industrial Arts	Industrial Arts General 10 Drafting 10, 20, 12, 22, 32 I.A. Graphic Communications 10
Vocational Education	Automotives 12, 22, 32 Beauty Culture 12, 22, 32 Building Construction 12, 22, 32 Electronics 12, 22, 32 Machine Shop 12, 22, 32

Table 32

Programs Offered in the Division III Grades in the
Grande Prairie Public School District: 1960-1970

	Grade Seven	Grade Eight	Grade Nine
Core Subjects	Language Arts Mathematics Science Social Studies Physical Education	Language Arts Mathematics Science Social Studies Physical Education	Language Arts Mathematics Science Social Studies Physical Education
Group A Options	Choral Music (L1) ¹ Band (H2) Art (M) Dramatics (L2) (M) ² Home Economics (H1) Industrial Arts (M)	Choral Music (L2) (M) Band (H1) Art (M) Dramatics Home Economics (H2) Industrial Arts (M)	Band (L1) (M) Orchestra (L3) Art (M) Dramatics (H3) Home Economics (H2) Industrial Arts (M)
Group B Options	French (L3) (M) Reading Science Anthropology (L4) Geography (H4) Science (H3)	French Reading (H3) Communications (L3) Mathematics (H4) Science Sociology (M) Psychology Social Problems Geography Physical Education	French Reading Creative Writing (H4) Communications (L4) Sociology (M) Psychology Geography Mathematics (H2) Science (L4) Physical Education

¹The figures in parenthesis indicate whether the option course is the lowest (L) or highest (H) on per pupil cost, as well as the most commonly taken option (M). The figure following the letter indicates rank. Therefore (L2) means that course is the second lowest per pupil cost course while (H3) is the third highest.

²For purposes of Table 16 the costs of Home Economics and Industrial Arts have been averaged assuming one student cannot take both. This cost is always included in most common option columns as the combined total indicates the option enrolment.

Table 33

Matriculation Routes in Grande Prairie Public School District

<p>IF</p> <p>(i) you have difficulty with English, Social Studies, Math or Science</p> <p>(ii) you wish to improve your skills in these academic subjects</p> <p>(iii) you wish to go on to further education after High School</p> <p>TRY A GENERAL PROGRAM</p>	<p>GRADE 10</p> <p>English 10 _____ (5)</p> <p>English 13 _____ or _____ (5)</p> <p>Reading 10 _____ (3)</p> <p>Social Studies 10 or 13 _____ (5)</p> <p>Physical Education 10 _____ (5)</p> <p>Mathematics 10 or 12 or 15 _____ (5)</p> <p>General Tech _____ ()</p> <p>Science 11 _____ or _____ (5)</p> <p>Chemistry 10 _____ (3)</p> <p>Biology 10 _____ (3)</p> <p>Physics 10 _____ (3)</p> <p>Electives _____ ()</p> <p>Maximum Credits _____ 42</p> <p> • Industrial Arts Courses • Business Education Courses • Fine Arts Courses • Home Economics Courses • Modern Languages • Special Interest Courses </p>	<p>GRADE 11</p> <p>At Least 1 Of _____</p> <p>English 20 or 23 _____ (5)</p> <p>Language 21 _____ (5)</p> <p>Literature 21 _____ (5)</p> <p>At Least 1 Of _____</p> <p>Social Studies 20 or 23 _____ (5)</p> <p>Sociology 20 _____ (5)</p> <p>Psychology 20 _____ (5)</p> <p>As Required _____</p> <p>Math _____</p> <p>Sciences _____</p> <p>French _____ ()</p> <p>Electives _____ ()</p> <p>Maximum Credits _____ 42</p>	<p>GRADE 11</p> <p>At Least 1 Of _____</p> <p>English 20 or 23 _____ (5)</p> <p>Language 21 _____ (5)</p> <p>Literature 21 _____ (5)</p> <p>At Least 1 Of _____</p> <p>Social Studies 20 _____ (5)</p> <p>Sociology 20 _____ (5)</p> <p>Psychology 20 _____ (5)</p> <p>Math or Sciences As Required _____</p> <p>One Of _____</p> <p>Automotives 12/22 _____ (20)</p> <p>Beauty Culture 12/22 _____ (20)</p> <p>Building Const 12/22 _____ (20)</p> <p>Drafting 12/22 _____ (20)</p> <p>Electronics 12/22 _____ (20)</p> <p>Machine Shop 12/22 _____ (20)</p> <p>Pipe Trades 12/22 _____ (20)</p> <p>Electives _____ (5)</p> <p>Maximum Credits _____ 42</p>	<p>GRADE 11</p> <p>At Least 1 Of _____</p> <p>English 20 or 23 _____ (5)</p> <p>Language 21 _____ (5)</p> <p>Literature 21 _____ (5)</p> <p>At Least 1 Of _____</p> <p>Social Studies 20 _____ (5)</p> <p>Sociology 20 _____ (5)</p> <p>Psychology 20 _____ (5)</p> <p>Math 20 or 25 _____ (5)</p> <p>Bookkeeping 10 or 20 _____ (5)</p> <p>Typewriting 10 or 20 _____ (5)</p> <p>At Least 1 Of _____</p> <p>Shorthand 10/20 _____ (10)</p> <p>Data Processing 22 _____ (5)</p> <p>Merchandising 20 _____ (5)</p> <p>Electives _____ ()</p> <p>Maximum Credits _____ 42</p>	<p>GRADE 12</p> <p>English 30 or 33 _____ (5)</p> <p>At least two Grade 12 courses _____ (10)</p> <p>Electives _____ (25)</p> <p>Maximum Credits _____ 40</p>	<p>GRADE 12</p> <p>English 30 or 33 _____ (5)</p> <p>As Required _____</p> <p>Math _____</p> <p>Sciences _____</p> <p>Social Studies _____</p> <p>One Of _____</p> <p>Automotives 32 _____ (15)</p> <p>Beauty Culture 32 _____ (20)</p> <p>Building Construction 32 _____ (15)</p> <p>Drafting 32 _____ (15)</p> <p>Electronics 32 _____ (15)</p> <p>Machine Shop 32 _____ (20)</p> <p>Pipe Trades 32 _____ (15)</p> <p>Electives _____ (5)</p> <p>Maximum Credits _____ 40</p>	<p>GRADE 12</p> <p>English 30 or 33 _____ (5)</p> <p>As Required _____</p> <p>Math _____</p> <p>Sciences _____</p> <p>Social Studies _____</p> <p>Business Machines 30 _____ (5)</p> <p>Typewriting 20 or 30 _____ (5)</p> <p>At Least 2 Of _____</p> <p>Shorthand 30 _____ (10)</p> <p>Shorthand 31 _____ (5)</p> <p>Office Practice 30 _____ (5)</p> <p>Accounting 30 _____ (5)</p> <p>Electives _____ (5)</p> <p>Maximum Credits _____ 40</p>	<p>Where Do These Programs Lead?</p> <ul style="list-style-type: none"> • All these programs lead to graduation with a High School Diploma • All these programs can lead to direct employment through wise selection of academic, vocational and elective courses • All these programs can lead to further education at University, Junior Colleges, Schools of Nursing, Technical Institutes, etc through wise selection of academic, vocational and elective courses • TECHNICAL STUDENTS should note that they may receive credit toward one year of advanced standing at Technical Institutes, or credit of one year of an apprenticeship program • These programs are typical only. They should be used as a guide in designing your program
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Table 34

Business and Technical Routes in Grande Prairie Public School District

<p>IF</p> <p>(i) you have a "B" or higher standing in all Grade 10 subjects</p> <p>(ii) you intend to complete matriculation requirements</p>	<p>GRADE 10</p> <p>English 10 (5) Social Studies 10 (5) Physical Education 10 (5) Mathematics 10 (5) French 10 or 11 (5)</p> <p>At Least Two Of</p> <p>Chemistry 10 (3) Biology 10 (3) Physics 10 (3)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 11</p> <p>Two Of</p> <p>English 20 (5) Language 21 (5) Literature 21 (5) Social Studies 20 (5)</p> <p>At Least Three Of</p> <p>Mathematics 20 (5) Chemistry 20 (3) Biology 20 (3) Physics 20 (3) French 20 (5)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 12</p> <p>English 30 (5)</p> <p>At Least Four Of</p> <p>Social Studies 30 (5) Mathematics 31 (5) Literature 31 (5) Biology 31 (5) Physics 31 (5) French 30 (5)</p> <p>Electives ()</p> <p>Maximum Credits 40</p>	<p>Where Do These Programs Lead?</p> <ul style="list-style-type: none"> • All of these programs may lead to admission to University or College or other educational institutions. • Admission to the University of Alberta requires five subjects, one of which must be English 30. Three other subjects may be chosen from: Social Studies 30, Mathematics 31, Chemistry 31, Biology 31, Physics 31, French 30. • Admission to the Faculty of Arts and Law requires a minimum average of the Grade 12 level. • For admission to the Faculty of Education and the Faculty of Physical Education the fifth subject may be chosen from any of the Grade XII subjects. • Each Faculty has some compulsory and some recommended subjects. • Students are advised to consult the University Technical Institutes or School counselors for specific details on entrance requirements.
<p>IF</p> <p>(i) you have a "B" or higher standing in English and Mathematics</p> <p>(ii) you intend to complete matriculation requirements</p>	<p>GRADE 10</p> <p>English 10 (5) Social Studies 10 (3) Physical Education 10 (5) Mathematics 10 (5)</p> <p>At Least Two Of</p> <p>Chemistry 10 (3) Biology 10 (3) Physics 10 (3)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 11</p> <p>English 20 (5)</p> <p>At Least One Of</p> <p>Social Studies 20 (5) Sociology 20 (5)</p> <p>At Least Three Of</p> <p>Mathematics 20 (5) Chemistry 20 (3) Biology 20 (3) Physics 20 (3) French 10 (5)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 12</p> <p>English 30 (5)</p> <p>At Least Four Of</p> <p>Mathematics 31 (5) Literature 31 (5) Biology 31 (5) Physics 31 (5) French 20/30 (5)</p> <p>Electives ()</p> <p>Maximum Credits 40</p>	
<p>IF</p> <p>(i) you have difficulty with Math and Science — i.e. lower than a "B" standing</p> <p>(ii) you have a "B" or higher standing in English and Social Studies</p> <p>(iii) you intend to complete matriculation requirements</p>	<p>GRADE 10</p> <p>English 10 (5) Social Studies 10 (5) Physical Education 10 (5) Mathematics 11 (5) Science 11 (5)</p> <p>French 10 or 11 (5)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 11</p> <p>Two Of</p> <p>English 20 (5) Language 21 (5) Literature 21 (5) Social Studies 20 (5)</p> <p>At Least One Of</p> <p>Mathematics 10 (5) Chemistry 10 (3) Biology 10 (3) Physics 10 (3)</p> <p>Electives ()</p> <p>Maximum Credits 42</p>	<p>GRADE 12</p> <p>English 30 (5)</p> <p>At Least Three Of</p> <p>Social Studies 30 (5) Mathematics 21/30 (10) Chemistry 20/30 (8) Biology 20/30 (8) Physics 20/30 (8) French 30 (5)</p> <p>Electives ()</p> <p>Maximum Credits 40</p>	

Table 35

Electives Used in Determining Division IV
Minimum and Maximum Cost Programs

Grade Ten	Grade Eleven	Grade Twelve
<u>Special Interest Courses</u>		
Liter. 11 (3) ¹ 34.43 ²	Phys. Ed. 20 (5) 81.18	Phys. Ed. 30 (5) 96.17
Reading 10 (3) 32.99	Liter. 21 (3) 47.85	Economics 30 (5) 51.33
	Sociology 20 (5) 70.30	
	Psychology 20(5) 40.36	
<u>Fine Arts Courses</u>		
Arts 10 (5) 50.23	Art 20 (5) 41.14	Art 30 (5) 215.44
Drama 10 (5) 61.69	Drama 20 (5) 344.06	
Music 10 (5) 54.13	Music 20 (5) 63.36	Music 30 (5) 204.82
Music 11 (5) 101.18	Music 21 (5) 148.64	Music 31 (5) 230.47
<u>Industrial Arts Courses</u>		
Drafting 10(5) 67.69		
I.A. General 10 (5) 57.77		
<u>Home Economics Courses</u>		
Fabrics and Dress. 10 (5) 118.91		
Food and Nutrition 10 (5) 98.98		
Home Furnishings 10 (5) 57.27		

¹ Figures in parentheses represent the credit value of the course.

² Amounts of money shown are in per enrolment figures.

APPENDIX C
INDIRECT AND IMPLEMENTARY COSTS INFORMATION

Table 36

Breakdown of Selected Indirect Costs to Grade Level
for Divisions I and II

Grade Level	Textbooks			Instructional Sup. & Equip. ¹				Total	
	Avondale	Hillside	Montrose	Swanavon	Avondale	Hillside	Montrose		Swanavon
Kindergarten					181	128		144	453
Elem. Opp.			79				274		353
1	454	545	205	749	349	457	331	633	3,723
2	518	485	221	706	168	291	145	417	2,951
3	289	333	122	646	206	272	140	427	2,435
4	299	418	130	544	239	241	144	440	2,455
5	293	329	177	601	326	281	161	434	2,602
6	306	334	173	689	275	263	202	409	2,651
Totals	2,159	2,444	1,107	3,935	1,744	1,933	1,397	2,904	17,623

¹These figures exclude those costs chargeable to schools but not to grade levels (i.e. Library Supplies, Audio-Visual Equipment, etc.)

Table 37
Breakdown of Selected Indirect Instructional Costs
To Schools for Divisions I and II¹

Indirect Cost Category	Avondale	Hillside	Montrose	Swanavon	Totals
Physical Ed. Equipment	487.00	787.00	1,146.00	423.00	2,843.00
Music Equipment	315.00	341.00	163.00	470.00	1,289.00
Audio-Visual Aids	571.03	591.79	192.00	344.17	1,698.99
Totals	1,373.03	1,719.79	1,501.00	1,237.17	5,830.99

¹Remaining Indirect Instructional Costs are reported in Table 41.

Table 38

Selected Indirect Instructional Costs by Course
and Course Cluster for Division III

Course & Grade	Textbook Costs	Allocable Supplies & Equip. ¹	Less Revenues ²	Course Cluster Total	Non- Allocable Sup.&Equip. ³	Cluster Indir. Total
Art 7, 8, 9	-	2,414	671			
Drama 7, 8, 9	155	714		5,021	-	5,021
Music 7, 8, 9	-	3,266	702			
Social Studies 7	140					
8	13			153	756	909
9	-					
Language 7	192					
8	18					
9	16			1,562	302	1,864
Reading 7	371					
8	907					
9	58					
Mathematics 7	821					
8	804			2,564	254	2,818
9	939					
Physical Education 7, 8, 9		1,597		1,597	-	1,597
Science 7	811					
8	196			1,149	2,681	3,830
9	142					
Home Ec. 7, 8, 9	59	1,819		1,878	-	1,878
Ind. Arts 7, 8, 9	69	2,706	702	2,004	-	2,004
Oral French	104	33		137	-	137
Sr. Opp.	3	427		430	-	430
Audio-Visual Aids	-	1,733		1,733	-	1,733

¹Costs allocable to course.

²Revenues received from students registered in these courses.
(See Table 40.)

³Costs not allocable to specific courses or grade levels but
allocable to course clusters.

Table 39

Selected Indirect Instructional Costs by Course
and Course Cluster for Division IV

Course & Grade	Textbook, Costs	Allocable Supplies & Equip. ¹	Less Revenues ²	Course Cluster Total	Non- Allocable Sup.&Equip. ³	Coordinators	Cluster Indirect Total
<u>Language Arts Cluster</u>							
English 10	972						
English 13	615						
English 20	495						
English 23	123						
English 30	265			2,826	783	-	3,609
English 33	114						
Reading 10	91						
Language 21	98						
Literature 21	56						
<u>Social Studies Cluster</u>							
Social Studies 10	519			608	999	-	1,607
Social Studies 20	89						
<u>Mathematics Cluster</u>							
Mathematics 10	54						
Mathematics 12	39						
Mathematics 15	398						
Mathematics 20	59			1,039	456	722 ⁴	2,217
Mathematics 22	54						
Mathematics 25	205						
Mathematics 30	101						
Mathematics 31	129						
<u>Science Cluster</u>							
Biology 10, 20	1,180						
Biology 30	488						
Physics 10	186			2,233	3,523	722	6,478
Physics 20	315						
Physics 30	64						

Table 39 (continued)

Course & Grade	Textbook Costs	Allocable Supplies & Equip.	Less Revenues	Course Cluster Total	Non- Allocable Sup. & Equip. ³	Coordinators	Cluster Indirect Total
Phys. Ed. 10, 20, & 30	-	3,131	300	2,831	-	2,300	5,131
<u>Modern Languages Cluster</u>							
French 11	121						
French 20	79			384	744	-	1,128
French 30	55						
<u>Fine Arts Cluster</u>							
Music	-	3,301	270				
Drama 10, 20	321	346		3,757	-	-	3,757
Arts 10	77	596	216				
Art 20, 21, 30, 31	215						
<u>Business Education Cluster</u>							
Bookkeeping 10, 20	405						
Accounting 30	77						
Shorthand 10	89						
Shorthand 20	41				1,125	-	3,587
Typing 10, 20, 30	247			2,462			
Data Processing	302						
Merchandising	285	951					
Business Machines 30	65						
<u>Home Economics Cluster</u>							
Food and Nutrition 10	48						
Home Economics 10	76			124	1,447	-	1,571
<u>Industrial Arts Cluster</u>							
Industrial Arts	80	2,180	480				
Drafting 12	82)	1,268		2,968	-	-	2,968
Drafting 22	200)						

Continued

Table 39 (continued)

Course & Grade	Textbook Costs	Allocable Supplies & Equip. ¹	Less ² Revenues	Course Cluster Total	Non- Allocable ³ Sup.&Equip.	Coordinators	Cluster Indirect Total
<u>Vocational Education Cluster</u>							
Automotives	31	7,183					
Junior Vocational	-	2,081					
Beauty Culture	574	2,891 ⁵					
Electronics 22	334)	4,341		23,315	2,297	1,825	27,437
Electronics 32	133)						
Bldg. & Const.	330	1,369					
Machine Shop	-	4,048					
Audio-Visual Aids		850		850			850

¹Costs allocable to courses.

²Revenues received from students registered in these courses. (See Table 40.)

³Costs not allocable to specific courses or grade levels but allocable to course clusters.

⁴Math-Science coordinator costs divided between two clusters.

⁵Includes cost of Shampooist

Table 40

Revenues Deductable from Course, Course Cluster,
or Program Costs¹

Category	Amount
Kindergarten Tuition	18,537.50
Textbook Rentals	29,594.05
Music Fee Jr. High	600.00
Music Fee Sr. High	270.00
Music - Rentals of Instruments, Jr. High	102.00
Music - Rentals of Instruments, Sr. High	30.00
Art Fee Jr. High	671.00
Art Fee Sr. High	216.00
Industrial Arts Fee Jr. High	702.00
Industrial Arts Fee Sr. High	480.00

¹With the exception of Kindergarten and Textbook revenues these revenues have been deducted from course costs.

APPENDIX D

DISTRICT INFORMATION OTHER THAN FINANCIAL

Table 41

Indirect and Implementary Costs per Student for each Grade Level
in the Grande Prairie Public School District: 1969 - 1970

Levels	Classification Categories ¹																				TOTAL	
	100 a)	100 b)	200b)1	200b)2	200b)3	200b)4	200b)5	200b)6	200b)7	200c)2	200c)4	500	600 a)	600 b)	600 c)	600 d)	700	800	1400	All./Gd		A-V
Kdgrt.	10.56	1.72	15.40	2.78	-	2.14	-	1.09	-	3.34	1.93	.05	9.70	8.91	1.07	.78	11.78	6.24	.92	2.30	.57	60.19
Jr. Opp.	21.12	3.44	30.79	5.55	-	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	32.09	1.13	169.16
Sr. Opp.	22.85	3.44	36.47	11.39	-	35.48	-	5.86	-	8.95	3.13	.37	20.62	21.07	3.53	1.56	36.30	12.47	1.83	-	2.70	228.02
Gd. 1	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	14.43	1.13	172.94
Gd. 2	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	12.83	1.13	171.34
Gd. 3	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	10.36	1.13	168.87
Gd. 4	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	10.58	1.13	169.09
Gd. 5	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	12.05	1.13	170.56
Gd. 6	21.12	3.44	30.79	5.55	.32	4.27	-	2.18	-	6.67	3.85	.37	19.40	17.87	2.14	1.56	23.55	12.47	1.83	11.63	1.13	170.14
Gd. 7	22.85	3.44	36.47	11.39	-	35.48	-	5.86	-	8.95	3.13	.10	20.62	21.07	3.53	1.56	36.30	12.47	1.83	-	2.70	227.75
Gd. 8	22.85	3.44	36.47	11.39	-	35.48	-	5.86	-	8.95	3.13	.10	20.62	21.07	3.53	1.56	36.30	12.47	1.83	-	2.70	227.75
Gd. 9	22.85	3.44	36.47	11.39	-	35.48	-	5.86	-	8.95	3.13	.10	20.62	21.07	3.53	1.56	36.30	12.47	1.83	-	2.70	227.75
Gd.10	22.85	3.44	43.82	16.21	23.66	1.19	3.99	18.92	11.23	7.63	6.77	30.22	41.09	58.58	8.15	1.56	47.15	12.47	1.83	-	1.13	362.89
Gd.11	22.85	3.44	43.82	16.21	23.66	1.19	3.99	18.92	11.23	7.63	6.77	30.22	41.09	58.58	8.15	1.56	47.15	12.47	1.83	-	1.13	362.89
Gd.12	22.85	3.44	43.82	16.21	23.66	1.19	3.99	18.92	11.23	7.63	6.77	30.22	41.09	58.58	8.15	1.56	47.15	12.47	1.83	-	1.13	362.89

¹ Numbers signify the clasifications found in Table 1

² The Kindergarten figures are halved as each Kindergarten pupil attends half-days only and should therefore assume only one-half of the cost assumed by students in full time attendance.

³ This column represents costs chargeable to grade levels and they do not appear in the other columns of this Table.

Table 42

District Summary of Pupil and Faculty Breakdown

Grade	No. Regis.	Total Div.	Grade	No. Regis.	Total Div.
Kdgarten	72.5		Sr. Opp.	10	
1	258		7	225	
2	230	723	8	220	643
3	235		9	188	
4	232		10	283	
5	216	687	11	244	751
6	228		12	224	
Jr. Opp.	11				

Total Students - 2,902.5

Total Faculty - 149¹

¹The one travelling teacher appears as a single teacher in this total.

Table 43
Pupil and Faculty Breakdown by Schools

Grade	Avondale Elementary		Hillside Elementary		Montrose Elementary		Swanavon Elementary		Montrose Elementary		Composite High School	
	Gd.	Ttl.	Gd.	Ttl.	Gd.	Ttl.	Gd.	Ttl.	Gd.	Ttl.	Gd.	Ttl.
Kdrgarten	51		42				52					
1	60		72		27		99		225		283	
2	64	178	57	191	26	76	83	278	220	643	244	751
3	54		62		23		96		188		224	
4	55	364.5	77	405	24	172	76	542	10			
5	50		56	193	30	96	80	238				
6	55	159	60		31		82					
Jr. Opp.												
7												
8												
9												
Sr. Opp.												
10												
11												
12												
Direct Faculty ²	18		19		9		25		36		44	
Indirect Faculty	0		0		0		0		0		2	

¹Kindergartens have been treated as separate programs offered in the schools having them and are not included in the Division totals. They are, however, included in the school totals but their registration has been halved as they attend school half-days only.

²Direct Faculty includes those teachers who actually instruct classes in each school. Full-time administrators and librarians appear as Indirect Faculty. The one travelling teacher appears in each total except the Composite High School.

Table 44

Qualifications, Experience and Average Salary
of Teachers by School

Schools	No. of Teachers ¹	Average Salary ²	Average Experience (Salary Purposes)	Average Training (Yrs.)
Avondale Elem.	17	8,142.66	6.4	2.33
Hillside Elem.	18	7,850.64	5.6	2.50
Montrose Elem.	8	8,085.35	7.4	2.63
Swanavon Elem.	24	7,290.07	4.8	2.25
Montrose J. High	36	8,469.58	4.8	3.14
Composite High School	46	9,774.02	5.9	4.00

¹Includes one full-time administrator and one full-time librarian, as well as Kindergarten teachers.

²Includes portional Salaries chargeable to Indirect Instructional salaries (series 200b.). Part-time teachers' salaries have been raised to full-time equivalents.

Table 45

Qualifications, Experience and Average Salary
of Teachers by District

Total Number of Teachers	149
Average Salary	8,603.50
Average Experience (for salary purposes)	4.94
Average Training (for salary purposes)	3.13

Table 46

Floor Areas of Buildings Maintained and Operated by Grande Prairie
Public School District: 1969-1970

Building	Area In Square Feet
Grande Prairie Composite High School	147,200
Montrose Junior High School	56,925
Avondale Elementary School	28,750
Hillside Elementary School	24,150
Montrose Elementary School	28,750
Swanavon Elementary School	29,325
Administration Offices	2,800
Maintenance Shop	3,088

APPENDIX E
DATA GATHERING FORMS

INSTRUCTION 200 a)

NAME _____ SCHOOL _____

Courses Taught - Grade or Level (Include Spares but not Admin. Time)	Course Time in Min. Per Week	Course Time as Percentage of Total Time	Enrolment Per Course	Training (for Salary Purposes)	Experience (for Salary Purposes)	For Office Use
Total Time (Min.)						

Administrative Time Per Week _____ %
 Counselling Time Per Week _____ Min.
 _____ Min.

PRORATION OF ADMINISTRATIVE OR COUNSELLING DUTIES TO DIVISION AND PROGRAM

- It is recommended that the following percentages be estimated from a one-week period.

My Administrative (Counselling)

Time is Divided Among the Divisions as Follows:

If In Div. IV

Also Prorate Your Time
By Programs:

I
Div.
II
Div.
III
Div.
IV
Div.

Total - 100%

Academic
General
Commercial
Vocational

Other	Specify

Total - 100%

INSTRUCTION 200 a) DIRECT SALARIES (CLASSROOM TEACHER'S WORKLOAD SURVEY)

Courses Taught - Grade or Level (Include Spares)	Course Time in Min. Per Week	Course Time as Percentage of Total Time	Enrolment Per Course	Training Experience (for Salary Purposes)	For Office Use
Total Time (Min.)					

NOTES

(2) Example of Total Time: 8 periods of 40 minutes for 5 days = $8 \times 40 \times 5 = 1,000$ minutes.

INSTRUCTION 200 b) INDIRECT SALARIES (FULL-TIME SUPERVISORS, SCHOOL CLERICAL STAFF, INTERNS)

NAME _____ POSITION _____ SCHOOL _____

ESTIMATION OF TIME SPENT BY GRADE DIVISIONS AND PROGRAMS

NOTE - It is recommended that the following percentages be estimated from a one-week period.

My Time is Divided
Among the Divisions as
Follows:

Div. I	_____
Div. II	_____
Div. III	_____
Div. IV	_____
Total -	100%

If in Div. IV

My Time is Divided
Among the Programs
as Follows:

Academic	_____
General	_____
Commercial	_____
Vocational	_____

Other _____ Specify _____

Total - 100%

B29952